



METAL DOORS
AND TRIM

SALES AGENTS

The Mars Company

1020 Keith Building

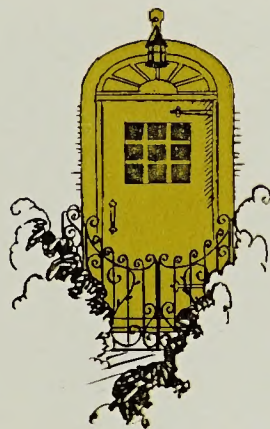
Superior 331 CLEVELAND, OHIO

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BY
METAL DOOR & TRIM CO.
LA PORTE, INDIANA

METAL DOORS *and* TRIM

Hollow Metal Construction

Details
and
Specifications



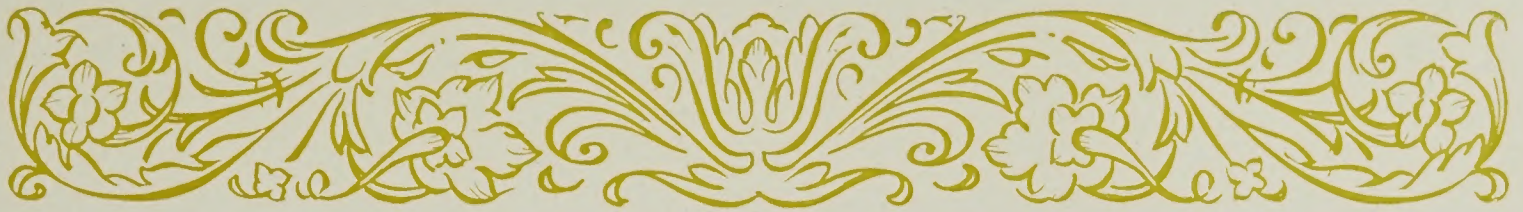
METAL DOOR & TRIM CO.

Successors to J. C. McFarland Company

LA PORTE, INDIANA

Representatives in all Principal Cities





THE Metal Door & Trim Co. in its seven years of consistent growth has effectively solved the varied problems peculiar to this industry. This is evidenced by the development from a plant covering 45,000 square feet to one of more than 6½ acres. It has equipped this plant with modern machinery—largely of its own design and construction—to secure maximum efficiency in production; it has developed an organization of technical men trained to meet problems in the building industry; it has placed itself in a position to render real service.

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BUILDING exteriors illustrated are typical of the many types of buildings in which Metal Door & Trim Co's products have been used extensively.

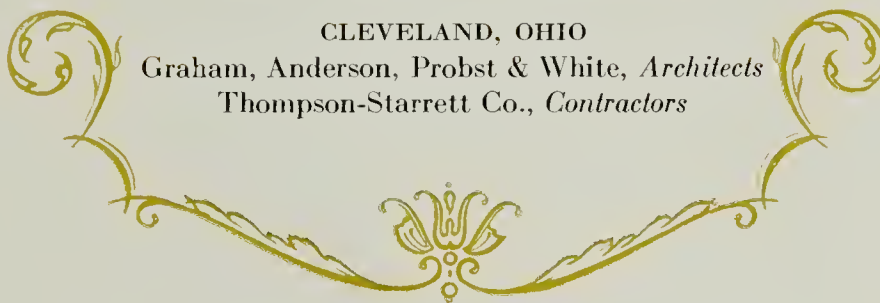




UNION TRUST BUILDING

CLEVELAND, OHIO

Graham, Anderson, Probst & White, *Architects*
Thompson-Starrett Co., *Contractors*





PURE OIL BUILDING

CHICAGO, ILLINOIS

Giaver & Dinkelberg, *Archilects*
Starrett-Dilks Co., *Contractors*

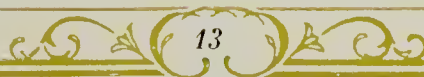




B. F. KEITH'S THEATRE AND OFFICE BUILDING

CLEVELAND, OHIO

C. W. & Geo. L. Rapp, *Archilects*
The Lundoff-Bicknell Co., *Contractors*



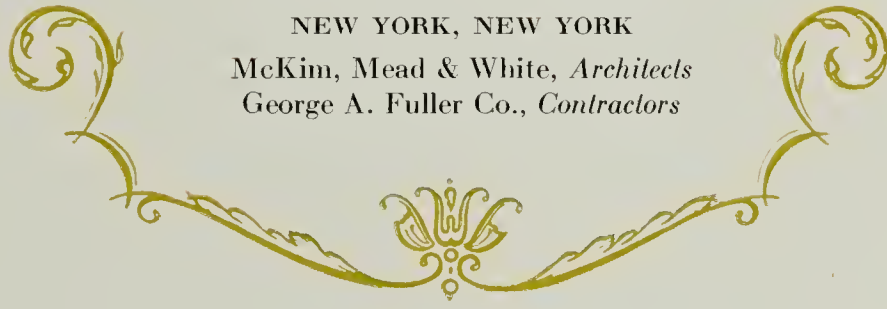


SAVOY-PLAZA HOTEL

NEW YORK, NEW YORK

McKim, Mead & White, *Architects*

George A. Fuller Co., *Contractors*



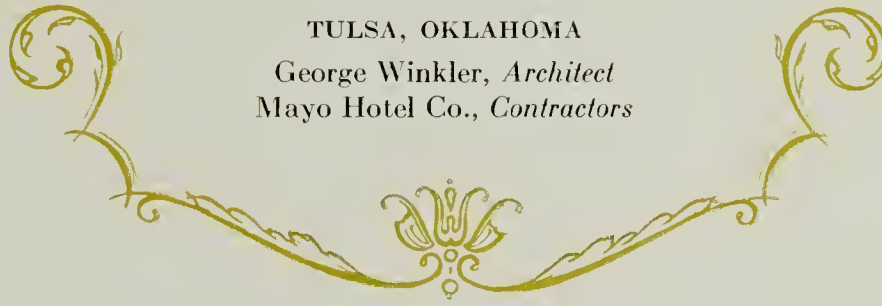


MAYO HOTEL

TULSA, OKLAHOMA

George Winkler, *Architect*

Mayo Hotel Co., *Contractors*





ALABAMA POWER COMPANY BUILDING

BIRMINGHAM, ALABAMA

Warren, Knight & Davis

S. Nesselroth

Associate Architects

The Dixie Construction Co., *Contractors*



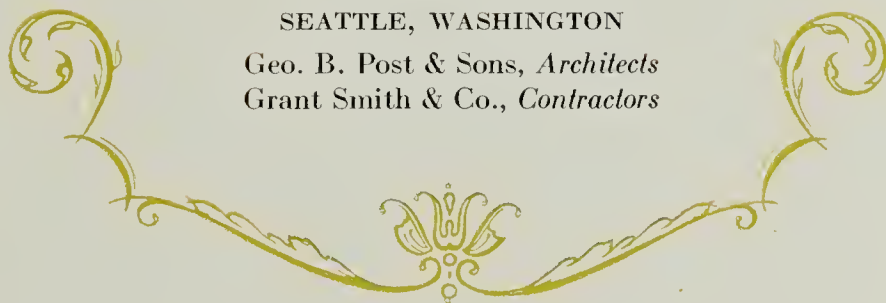


OLYMPIC HOTEL

SEATTLE, WASHINGTON

Geo. B. Post & Sons, *Architects*

Grant Smith & Co., *Contractors*



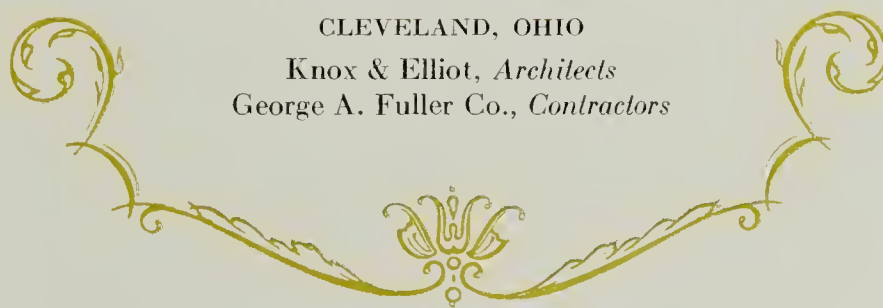


ENGINEERS BANK BUILDING

CLEVELAND, OHIO

Knox & Elliot, *Architects*

George A. Fuller Co., *Contractors*





HOTEL MANGER

NEW YORK, NEW YORK

H. Craig Severance, *Architect*
Bing & Bing, Inc., *Contractors*





BOOK-CADILLAC HOTEL

DETROIT, MICHIGAN

Louis Kamper, *Architect*
Starrett Brothers, Inc., *Contractors*

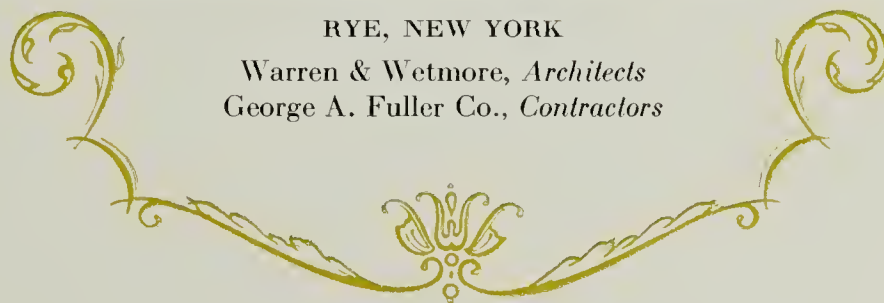




WESTCHESTER-BILTMORE COUNTRY CLUB

RYE, NEW YORK

Warren & Wetmore, *Architects*
George A. Fuller Co., *Contractors*



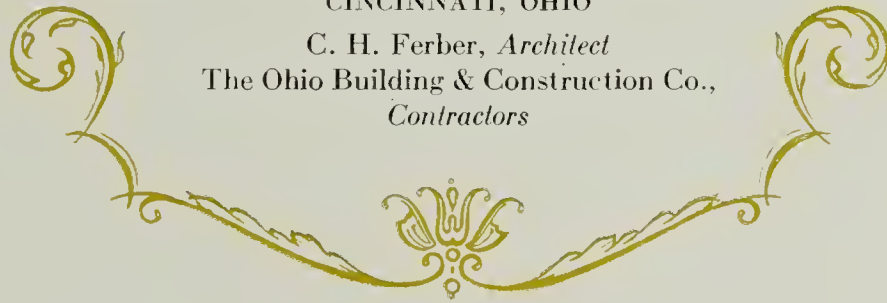


BELVEDERE APARTMENT BUILDING

CINCINNATI, OHIO

C. H. Ferber, *Architect*

The Ohio Building & Construction Co.,
Contractors



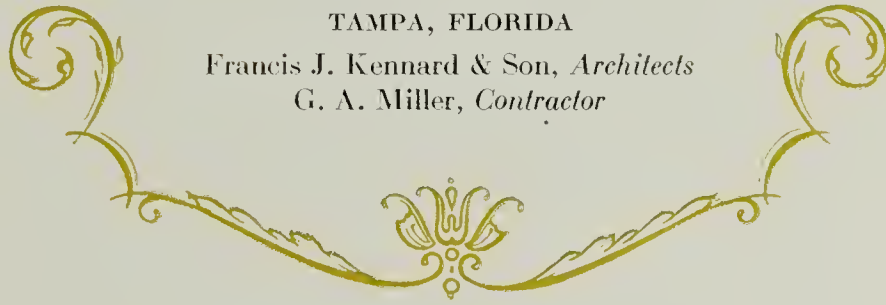


FLORIDAN HOTEL

TAMPA, FLORIDA

Francis J. Kennard & Son, *Architects*

G. A. Miller, *Contractor*





DRAKE APARTMENT HOTEL

NEW YORK, NEW YORK

Emery Roth, *Architect*
Bing & Bing, Inc., *Contractors*



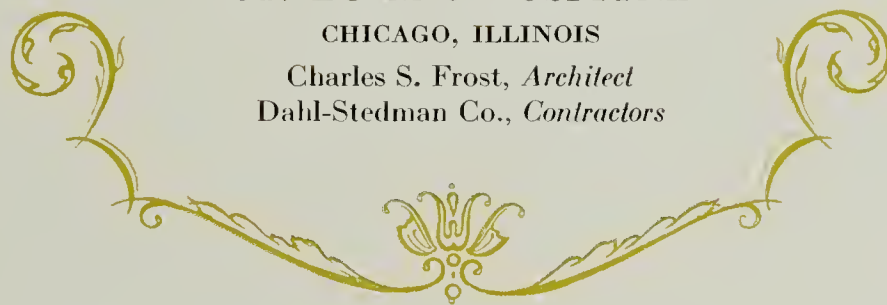


ST. LUKE'S HOSPITAL

CHICAGO, ILLINOIS

Charles S. Frost, *Architect*

Dahl-Stedman Co., *Contractors*



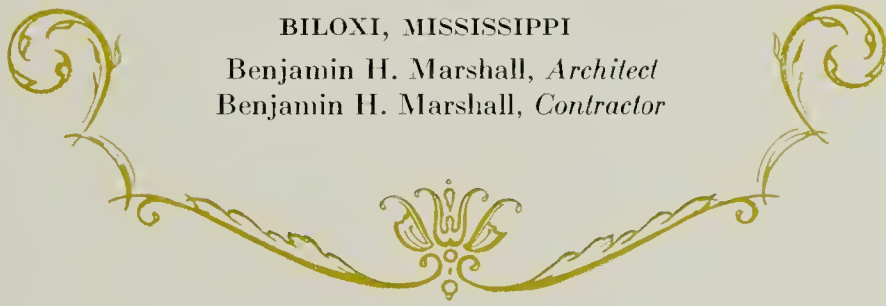


EDGEWATER GULF HOTEL

BILOXI, MISSISSIPPI

Benjamin H. Marshall, *Architect*

Benjamin H. Marshall, *Contractor*





AMERICAN FURNITURE MART

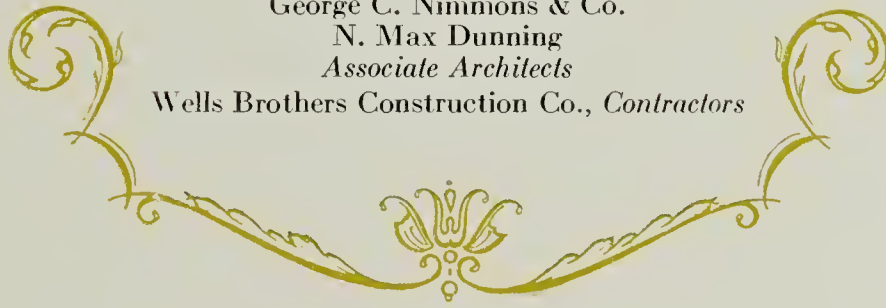
CHICAGO, ILLINOIS

George C. Nimmons & Co.

N. Max Dunning

Associate Architects

Wells Brothers Construction Co., *Contractors*





BREAKERS HOTEL

PALM BEACH, FLORIDA

Schultze and Weaver, *Architects*
Turner Construction Co., *Contractors*





GENERAL MOTORS BUILDING

DETROIT, MICHIGAN

Albert Kahn, *Architect*

Thompson-Starrett Co., *Contractors*





PERSHING SQUARE BUILDING

NEW YORK, NEW YORK

John Sloan
York & Sawyer
Associate Architects

Charles T. Wills, Inc., *Contractors*





POST-DISPATCH BUILDING

HOUSTON, TEXAS

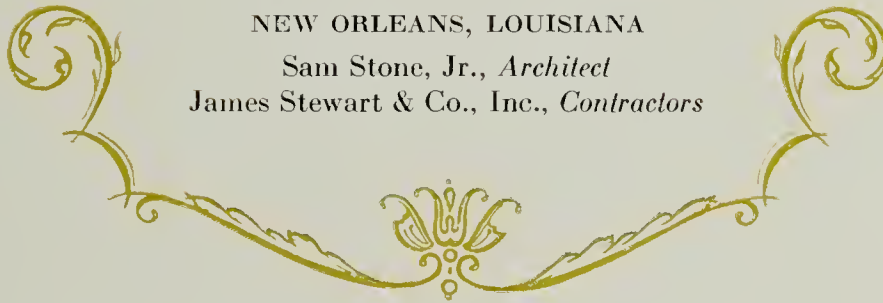
Sanguinet, Staats & Hedrick, *Architects*
Don Hall Construction Co., *Contractors*



AVERY LIBRARY
COLUMBIA UNIVERSITY



MASONIC TEMPLE
NEW ORLEANS, LOUISIANA
Sam Stone, Jr., *Architect*
James Stewart & Co., Inc., *Contractors*





DALLAS COTTON EXCHANGE

DALLAS, TEXAS

Lang & Witchell

Thomson & Swaine

Associate Architects

Central Contracting Co., *Contractors*





ARLINGTON HOTEL

HOT SPRINGS, ARKANSAS

Mann & Stern, *Architects*

Ault & Burden, *Contractors*





UNION STATION

CHICAGO, ILLINOIS

Graham, Anderson, Probst & White, *Architects*
John Griffiths & Son Co., *Contractors*





NATIONAL LIFE INSURANCE BUILDING

MONTPELIER, VERMONT

Cram & Ferguson, *Archilects*

L. D. Willcutt & Sons Co., *Contractors*





BANKERS BUILDING

CHICAGO, ILLINOIS

D. H. Burnham & Co., *Architects*

Starrett-Dilks Co., *Contractors*



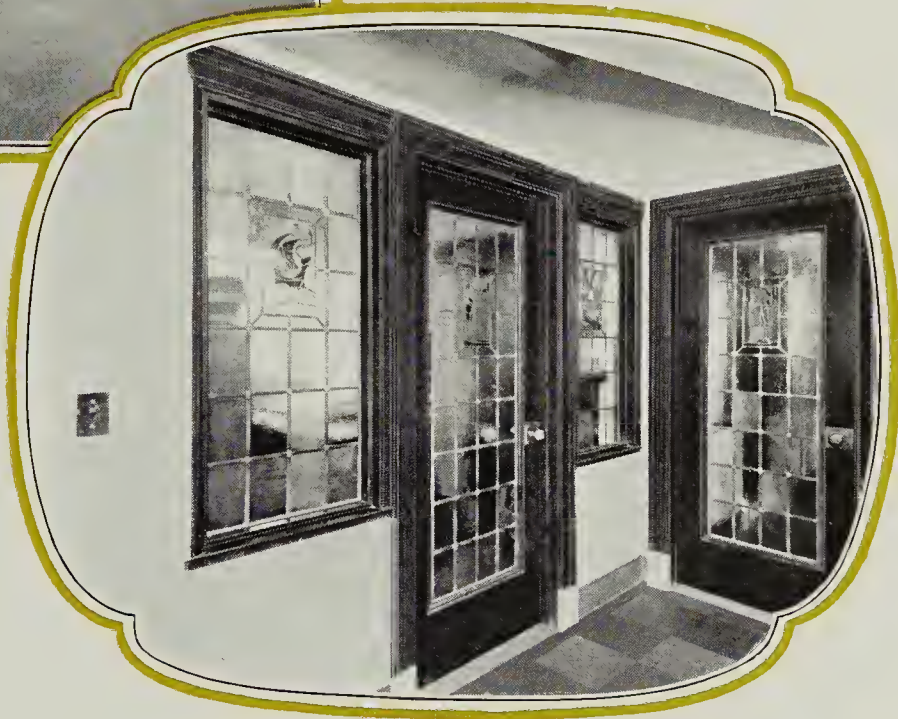
INTERIOR views show a few of the installations made by Metal Door & Trim Co. and are illustrative of the more general uses of hollow metal doors and trim.





*Center-parting enclosures
for passenger elevators in
the Pershing Square Bldg.,
New York City.*

*At the right, corridor and
communicating units glazed
with leaded glass, installed
in the Pershing Square
Bldg., New York City.*



THE installation of hollow metal doors and trim in the PERSHING SQUARE BUILDING, NEW YORK CITY, is one of the finest and most complete. There are 213 center-parting passenger elevator enclosures and 27 two-speed units with hinged panels for freight elevators. In addition the Metal Door & Trim Co. installed approximately 1200 swing door units of various types, 1100 sets of window trim, 700 lineal feet of partition sash and 500 square feet of ceiling sash.



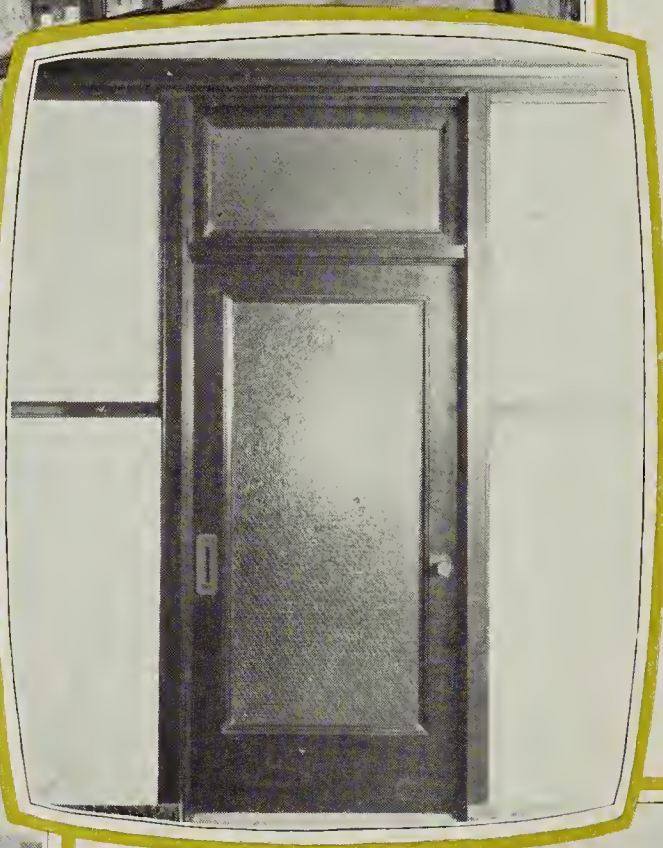
THE UNION TRUST BUILDING, CLEVELAND, OHIO, one of the largest bank and office buildings in the world, containing more than 1,315,000 square feet of floor space, is equipped throughout with hollow metal doors and trim manufactured and installed by the Metal Door & Trim Co.

This installation, one of the largest ever made, consists of approximately 5800 swing door units of practically every type, 1000 sidelight units, 4000 sets of window trim, 950 lineal feet of steel and glass partitions, 1900 lineal feet of partition sash and 450,000 lineal feet of wainscot cap, base, picture and wire mouldings.



*Ground floor arcade,
with display cases
on both sides.*

*At the right, a typical corridor
unit in the Union Trust Bldg.,
Cleveland, Ohio.*



*Above are illustrated ground floor
shop fronts in the Union Trust Bldg.,
Cleveland, Ohio.*

*At the right, a corridor view,
typical of the upper floors.*



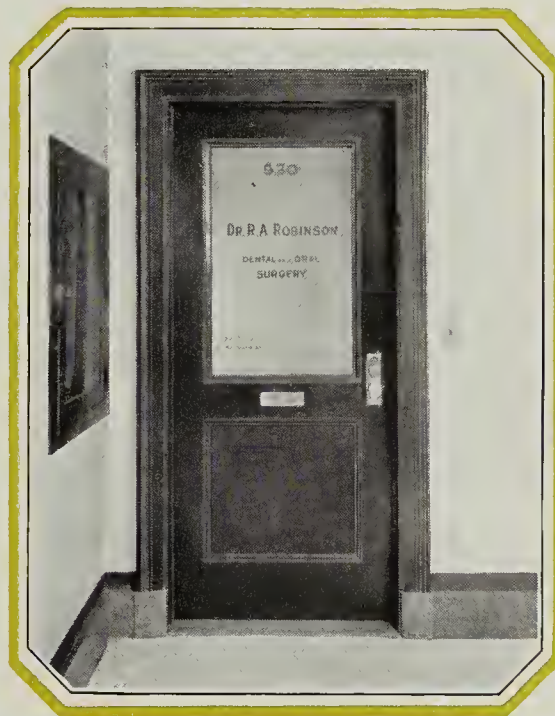
THE ENGINEERS BANK BLDG., CLEVELAND, OHIO, contains an exceptionally complete installation of Metal Door & Trim Co's products, which includes, 265 two-speed passenger elevator enclosures, 66 two-speed units for service and freight elevators, approximately 1600 swing door units of various types, 600 borrowed light units, 2 dumb-waiter openings, 45 coupon booths, 50 mirror frames, 5 telephone booths, 22 interior and exterior shop fronts, 70 lineal feet of steel and glass partitions, 35 lineal feet of toilet partitions and 80,000 lineal feet of frieze, base, picture and cap mouldings. There is also installed in all offices, approximately 32,000 lineal feet of special moulding which acts as an attractive chair rail, and in addition provides a safe, concealed method of carrying high and low tension wires.

Elevator enclosures are finished in baked enamel stipple bronze, while all other materials are finished in imitation of brown mahogany.

At the right, a typical corridor unit in the City Savings Bank, Albany, N. Y. This building is equipped throughout with hollow metal doors and trim furnished and installed by the Metal Door & Trim Co.



Above, two-speed units for passenger elevators installed in the B. P. O. Elks Bldg., Newark, N. J.



At the right, two-speed passenger elevator enclosures in the City Savings Bank, Albany, N. Y.

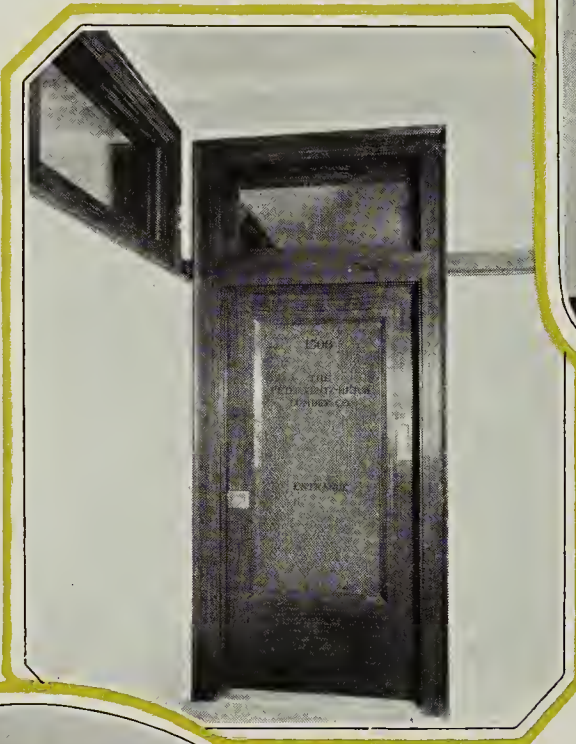




Two-speed enclosures for passenger elevators in the Engineers Bank Bldg., Cleveland, Ohio.



Above, a typical stair hall unit in B. F. Keith's Theatre and Office Bldg.



At the right is shown a typical corridor door and borrowed light unit installed in the Engineers Bank Bldg., Cleveland, Ohio.

Below, coupon booths in the same building.

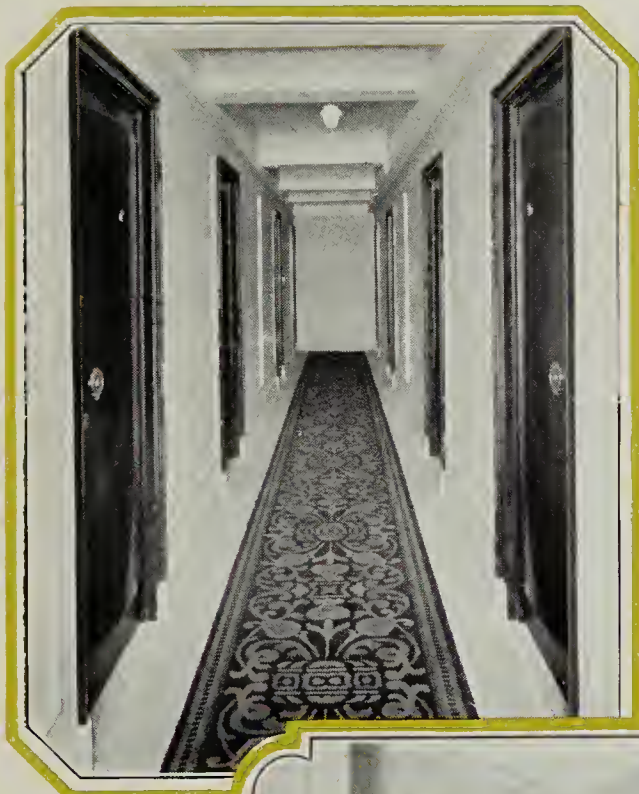


Below, typical inner office units with sidelights installed in B. F. Keith's Theatre and Office Bldg., Cleveland, Ohio.

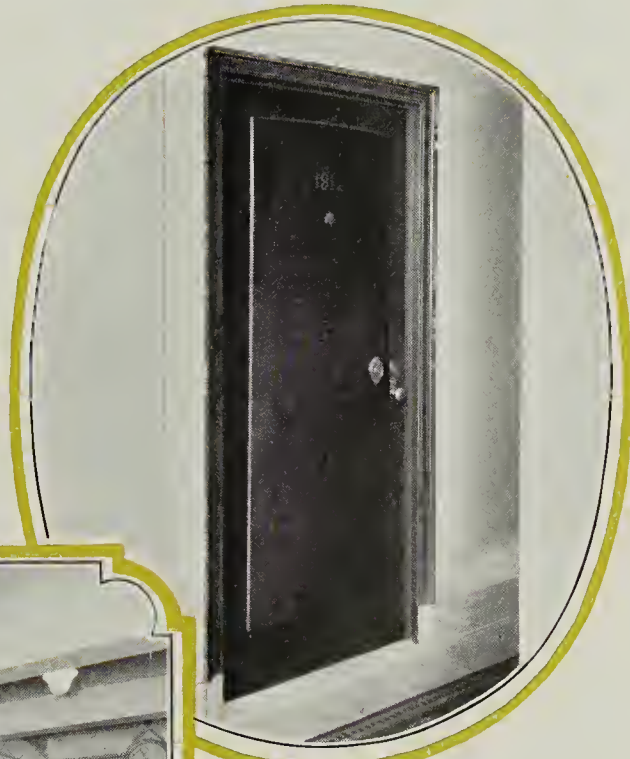


ROLLED type frames, totaling nearly 6000, were supplied for all openings in the HOTEL MANGER, N. Y. C. In addition, the Metal Door & Trim Co. furnished and installed 241 center-parting enclosures for passenger and freight elevators, and approximately 2300 swing doors of various types, many of which are equipped with Ventadoors and Servidor panels.

ALL openings in the MAYO HOTEL, TULSA, OKLAHOMA, are fireproofed with hollow metal doors and trim, furnished and installed by the Metal Door & Trim Co. There are included in this installation over 2100 swing door units of various types.



View at left is typical of the corridors in the Hotel Manger, New York City.



Above, corridor door equipped with Servidor panel.



At the left, center-parting passenger elevator enclosures in the Hotel Manger, New York City.

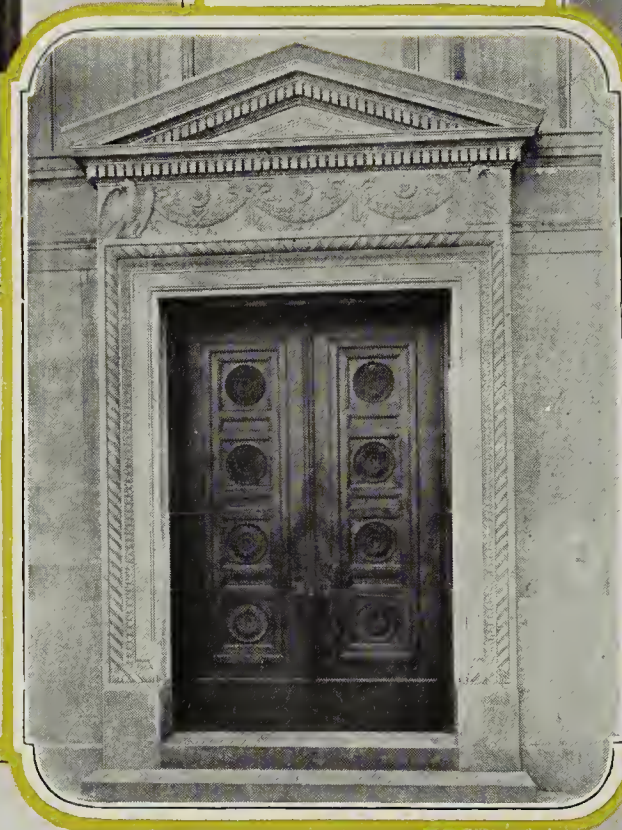


Two of the 195 two-speed elevator enclosures installed in the Fred F. French Bldg., New York City.

Below, bronze entrance unit for the Frost National Bank, San Antonio, Texas.

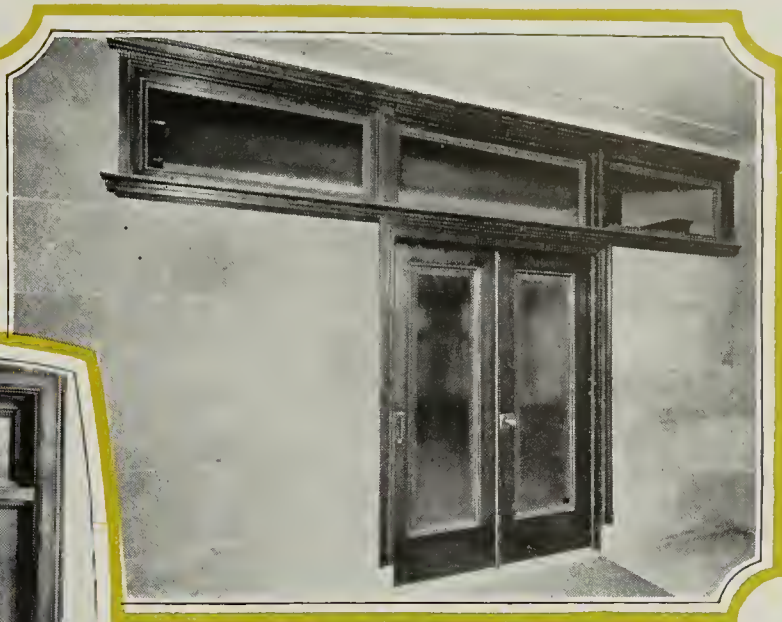


Typical stair hall door in the Fred F. French Bldg., New York City.

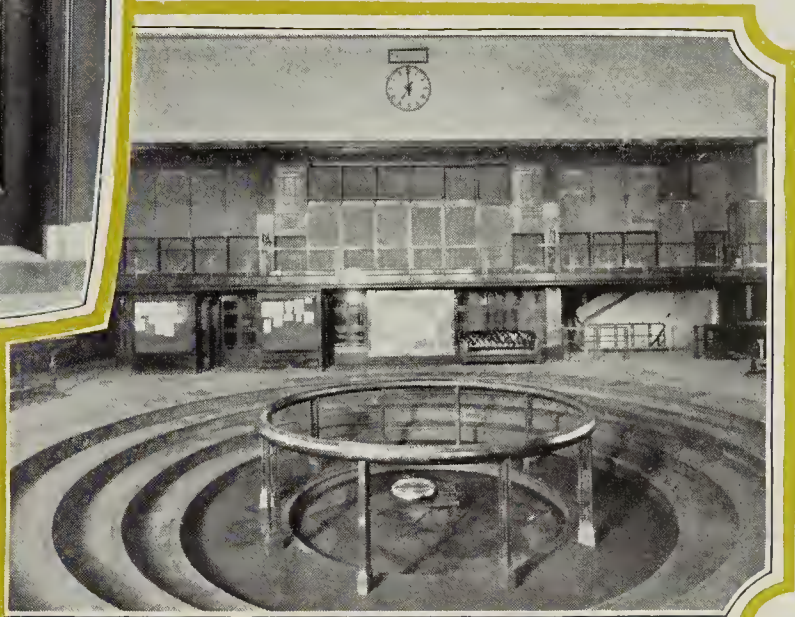
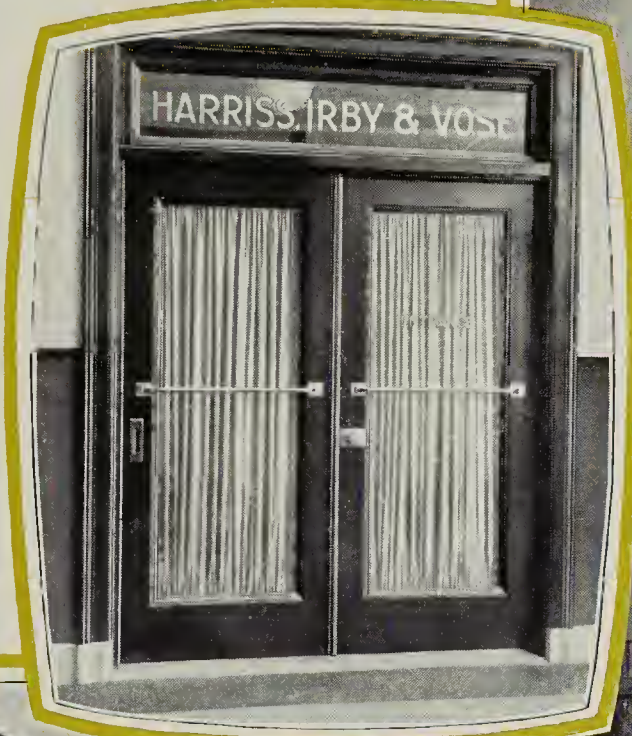


At the left are shown two of the 375 passenger elevator enclosures installed in the General Motors Building, Detroit, Mich. These are center-parting units with stationary panels at the sides. In addition, all corridor, stair, pipe and vent shaft openings in this building are fireproofed by hollow metal doors and trim furnished and installed by the Metal Door & Trim Co.

At the right, entrance unit to a suite of offices in the New York Cotton Exchange, New York City.



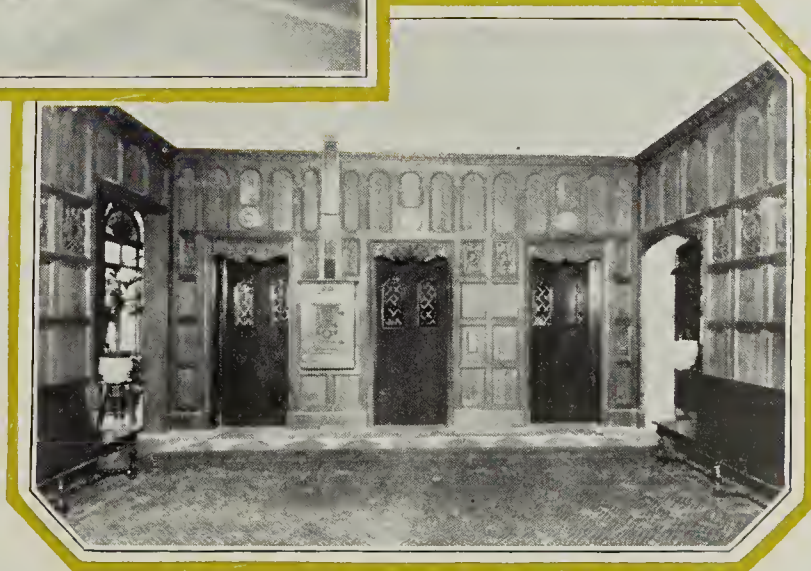
Below, a typical corridor unit of double doors.



Above, a view of the quotation board in the New York Cotton Exchange, New York City.



Above, two-speed enclosures with marble trim for passenger elevators, on the first floor of the Dallas Cotton Exchange, Dallas, Texas.



At the left, single sliding units for passenger elevators, on the main floor of the Westchester-Biltmore Country Club, Rye, N. Y.

Installations



A PARTIAL list of buildings for which metal doors and trim have been completely or partly furnished by the Metal Door & Trim Co., together with the names of the Architects, are shown on succeeding pages. Numerals denoting type of installation appear opposite the names of the buildings.

KEY TO NUMERALS

1. Elevator Enclosures
 2. Swing Door Units
 3. Rolled Type Frames
 4. Hospital Type Frames
- 

ALABAMA

ANNISTON

- Anniston Office Building 1
Warren, Knight & Davis

BIRMINGHAM

- Alabama Power Co. Building 1-2
Warren, Knight & Davis } Associate
S. Nesselroth } Architects
Henley Building 1
D. O. Whilldin
Jefferson Hotel 1-3
D. O. Whilldin
Pizitz Store 1
Starrett & Van Vleck } Associate
Harry B. Wheelock } Architects
Redmont Hotel 1-2
J. Lloyd Preacher
South Side Office Building 1
Warren, Knight & Davis
Southern Bell Telephone Building 1-2
Marye, Alger & Alger
Berin Electric Building 1
Charles H. McCauley

WARRIOR

- Alabama Power Co. Building 2
Private Plans

ARKANSAS

HOT SPRINGS

- Arlington Hotel 1
Mann & Stern
Majestic Hotel 1
Sanders & Ginocchio

LITTLE ROCK

- Missouri-Pacific Hospital 1
E. M. Tucker
Home Life Building 1
Private Plans

CALIFORNIA

PASADENA

- Sterling Office Building 2
John Parkinson & Donald B. Parkinson

COLORADO

BOULDER

- Chemistry Building, University of Colorado 2
Private Plans

CANON CITY

- Benedictine Abbey and College 2
L. Andrew Desjardines

DENVER

- Activities Building for Y. W. C. A. 1
W. E. & A. A. Fisher
Office Building, California and 17th Streets 1
W. E. & A. A. Fisher
Colburn Hotel 1
Wm. N. Bowman
Neusteter Building 1
W. E. & A. A. Fisher
Opportunity School 1-2
E. Floyd Redding
Patterson Building 2
Mounthoy & Frewen
Presbyterian Hospital 1
W. E. & A. A. Fisher

COLORADO [continued]

- Publex Theatre 1-2
C. W. & Geo. L. Rapp

SANATORIUM

- Women's Infirmary Building 4
W. E. & A. A. Fisher

CONNECTICUT

HARTFORD

- Orient Insurance Co. Building 1-2
W. F. Brooks

DELAWARE

DOVER

- State House Annex 2-3
Brown & Whiteside, Inc.

DISTRICT OF COLUMBIA

WASHINGTON

- Acropolis Apartment Building 1-3
John W. Kearney
A. Lincoln Hotel 1-3
Pierson & Wilson
Press Club Building 1-2
C. W. & Geo. L. Rapp
904 E. Street Hotel 1
Wardman Construction Co., Inc.

FLORIDA

CORAL GABLES

- Miami-Biltmore Hotel 1-2
Schultze and Weaver

LAKELAND

- Carpenters Home 1-2-4
Rubush & Hunter

MIAMI

- Congress Building 2
Martin L. Hampton
Hotel Kum-N-Go 2-3
Geo. L. Pfeiffer
Miami Daily News Building 1
Schultze and Weaver

PALM BEACH

- Breakers Hotel 1-2
Schultze and Weaver

TAMPA

- Floridan Hotel 3
Francis J. Kennard & Son
Sulphur Springs School 2
Frank Winn

ILLINOIS

AURORA

- C. B. & Q. Storehouse 2
W. T. Krausch

BLOOMINGTON

- Washington School 2
Associates of Arthur L. Pillsbury

CENTRALIA

- Centralia High School 2
Associates of Arthur L. Pillsbury

CHICAGO

- Ambassador East Hotel 3
Robert S. DeGolyer & Co.

ILLINOIS [continued]

American Furniture Mart	1-2
<i>George C. Nimmons & Co. \Associate</i> <i>N. Max Dunning \Architects</i>	
Annex to 199 Lake Shore Drive	1
<i>Benjamin H. Marshall</i>	
Austin Y. M. C. A.	2
<i>Bertin & Swern</i>	
Austin Hospital	3
<i>J. E. O. Pridmore</i>	
Bell Building	2
<i>K. M. Vitzthum & Co., Inc.</i>	
Builders Building	2
<i>Graham, Anderson, Probst & White</i>	
Bankers Building	1-2
<i>D. H. Burnham & Co.</i>	
C. M. & St. P. R. Office Building	2
<i>Graham, Anderson, Probst & White</i>	
Apartment Building, 2430 Lakeview Avenue	2
<i>Ribori, Wentworth, Dewey & McCormick, Inc.</i>	
Edgewater Beach Hotel	3
<i>Marshall & Fox</i>	
Eitel Hotel, Theatre and Office Building	2
<i>C. W. & Geo. L. Rapp</i>	
Edgewater Presbyterian Community House	2
<i>Perkins, Fellows & Hamilton</i>	
Englewood Y. M. C. A.	2
<i>Bertin & Swern</i>	
Grant Park Stadium	2
<i>Holabird & Roche</i>	
Hendry House	1
<i>Richard E. Schmidt, Gordon & Martin</i>	
Illinois Merchants Bank Building	2
<i>Graham, Anderson, Probst & White</i>	
Illinois Women's Athletic Club	1
<i>Richard E. Schmidt, Gordon & Martin</i>	
Inland Trust & Savings Bank	1
<i>K. M. Vitzthum & Co., Inc.</i>	
Lawrence-Kennmore Store & Hotel Building	1-2-3
<i>Huszagh & Hilt</i>	
Levy Mayer Hall & Gary Public Library	2
<i>Childs & Smith \Associate</i> <i>James G. Rogers \Architects</i>	
Madison Street Loft Building	1-2
<i>Frank D. Chase, Inc.</i>	
Marschak Building	1
<i>Dubin & Eisenberg</i>	
Mayfair Apartment Building	1-3
<i>Lowenberg & Lowenberg</i>	
Medical and Dental Arts Building	2
<i>D. H. Burnham & Co.</i>	
Mercantile Building	2
<i>Holabird & Roche</i>	
Morrison Hotel	2
<i>Holabird & Roche</i>	
North Side Sewage Treatment Plant	2
<i>H. P. Beiler</i>	
Palmer House	2-3
<i>Holabird & Roche</i>	
Park Shore Apartment Hotel	2
<i>Wm. E. Reichert</i>	
Pittsfield Building	2
<i>Graham, Anderson, Probst & White</i>	
Pure Oil Building	3
<i>Giaver & Dinkelberg</i>	
Roanoke Building	2
<i>Holabird & Roche</i>	

ILLINOIS [continued]

St. Francis Hospital	1
<i>Herman Gaul</i>	
St. Luke's Hospital	1-2
<i>Charles S. Frost</i>	
St. Vincent's Infant Asylum	2-4
<i>Holabird & Roche</i>	
Sawyer Theatre	2
<i>Fridstein & Co.</i>	
Singer Building	1
<i>Mundie & Jensen</i>	
Stock Yards National Bank	1-2
<i>A. Epstein</i>	
Straus Building	2
<i>Graham, Anderson, Probst & White</i>	
Student Y. M. C. A.	2
<i>Bertin & Swern</i>	
Tower Theatre	2
<i>Fridstein & Co.</i>	
Union Bank Building	1
<i>S. Milton Eichberg</i>	
Union Station	2
<i>Graham, Anderson, Probst & White</i>	
United Masonic Temple	2
<i>C. W. & Geo. L. Rapp</i>	
Uptown Theatre	2
<i>C. W. & Geo. L. Rapp</i>	
Windermere Hotel	2
<i>C. W. & Geo. L. Rapp</i>	
Y. M. C. A. Hotel	2
<i>Bertin & Swern</i>	
1540 Lake Shore Drive	1-2
<i>Huszogh & Hilt</i>	
1938 Lincoln Avenue Apartment Building	2
<i>Anthony H. Quitsow</i>	
1215 Astor Street Apartment Building	1-2
<i>Alfred S. Alschuler</i>	
1400 Lake Shore Drive	3
<i>Hooper & Janusch, Inc.</i>	
500 Barry Avenue Apartment Building	1-2
<i>Gollup & Joy</i>	
534 Stratford Place	2
<i>Hooper & Janusch, Inc.</i>	
180 West Washington St.	1-2
<i>Hyland & Corse</i>	
25 East Delaware Place	2-3
<i>Hooper & Janusch, Inc.</i>	
JOLIET	
Clinton Square Hotel	2-3
<i>Zimmerman, Soxe & Zimmerman</i>	
Joliet High School	2
<i>D. H. Burnham & Co.</i>	
Rialto Theatre and Commercial Building	2
<i>C. W. & Geo. L. Rapp</i>	
Walker Apartment Building	2
<i>D. H. Burnham & Co.</i>	
LA SALLE	
LaSalle-Peru High School	2
<i>Childs & Smith</i>	
PEORIA	
Pere Marquette Hotel	3
<i>Horace Trumbauer \Associate</i> <i>Hewitt & Emerson \Architects</i>	

ILLINOIS [continued]

SPRINGFIELD

Lincoln Square Theatre and Commercial Bldg. 2
E. P. Rupert

St. John's Hospital 2
Helmle & Helmle

STREATOR

Streator High School 2
Associates of Arthur L. Pillsbury

URBANA

Men's Gymnasium, University of Illinois 2
James M. White & Charles A. Platt

INDIANA

ANDERSON

Anderson Bank & Trust Building 1-2-3
Vonnegut, Bohn & Mueller

FORT WAYNE

Home Telephone Co. Building 2
Charles R. Weatherhogg

GARY

Knights of Columbus Building 2
*Harry L. Porter } Associate
Ralph McNally } Architects*

Hotel Gary 2
*McNally & Quinn } Associate
Charles W. Nicol } Architects*

INDIANAPOLIS

L. S. Ayers Building 1
Vonnegut & Bohn

Coleman Unit, Riley Hospital 1-2-4
R. F. Dagget & Edgecomb

Columbia Club 1
Rubush & Hunter

Kirk Building 1
George & Zimmerman

Major Surgical Building, Indianapolis City Hospital 2
Adolf Scherrer

Roosevelt Building 1
Vonnegut, Bohn & Mueller

Shelton Apartments 1-3
Foster Engineering & Service Co.

United Brotherhood of Carpenters and Joiners Building 1
Rubush & Hunter

MARION

Spencer Hotel 1-2
Burt L. French

MISHAWAKA

High School Building 2
Perkins, Fellows & Hamilton

Twin Branch Power Plant 1-2
Sargent & Lundy

SOUTH BEND

Fire Station 2
W. D. Teeple

TERRE HAUTE

Root Dry Goods Co. Store 1
Johnson-Miller-Miller

WHITING

Junior High School 2
N. S. Spencer & Son

IOWA

AMES

Iowa State College Hospital 2
Proudfoot, Bird & Rawson

BURLINGTON

Medical Arts Building 1
C. Werner Christensen

CEDAR RAPIDS

Denecke Co. Department Store Building 1
Harry E. Hunter

COUNCIL BLUFFS

Mercy Hospital 1-2-3
John H. Wheeler

DAVENPORT

Putnam Department Store 2
Graham, Anderson, Probst & White

DES MOINES

Des Moines Water Works 1-2
Alvord & Burdick

Za-Ga-Zig Temple 1-2
Sawyer & Watrous

DUBUQUE

Senior High School 2
J. W. Royer

FORT DODGE

Johnson Hotel 3
Frank W. Griffith

MAQUOKETA

High School 2
Arthur H. Ebeling

SIOUX CITY

Sioux City Telephone Building 2
George B. Prinz

KANSAS

HIAWATHA

Brown County Courthouse 2-3
W. E. Hulse & Co.

MANHATTAN

Wareham Apartment Hotel 3
Boller Bros.

ST. MARYS

St. Marys College 2-3
Rool & Siemens

TOPEKA

Christ Hospital 2
Richard E. Schmidt, Garden & Martin

Jay Hawk Hotel 3
*Thomas W. Williamson & Co. } Associate
Geo. B. Post & Sons } Architects*

Santa Fe Office Building 2
E. A. Harrison

WICHITA

Sedgwick County Courthouse 1
W. N. Bowman Co.

Union National Bank 1-2
K. M. Vitzthum & Co., Inc.

KENTUCKY

LEXINGTON

City Hall and Jail Building 1
Frankel & Curtis

KENTUCKY [continued]

LOUISVILLE

Kaufman Straus Building	1-2
<i>Nevin-Wischmeyer & Morgan</i>	
John C. Lewis Co. Building	1-2
<i>Private Plans</i>	
Louisville Water Co. Building	2
<i>V. A. Matleson</i>	
St. Joseph's Infirmary	1-2
<i>D. X. Murphy & Bro.</i>	
Starks Building	2
<i>Graham, Anderson, Probst & White</i>	

NEWPORT

Newport Finance Corporation Building	1-2
<i>Louis H. Wilson</i>	

PADUCAH

Charleston Apartment Building	3
<i>Manske & Bartling, Inc.</i>	
The Ritz Family Hotel	3
<i>Manske & Bartling, Inc.</i>	

LOUISIANA

BATON ROUGE

Louisiana National Bank Building	1-2
<i>Edw. F. Neild</i> \ <i>Associate</i>	
<i>Sanguinet, Staats & Hedrick</i> } <i>Architects</i>	

MONROE

Virginia Hotel	1
<i>Mann & Stern</i>	

NEW ORLEANS

Canal Bank & Trust Co. Building	1-2
<i>Emile Weil, Inc.</i>	
Jesuit College	1
<i>Wogan & Bernard</i>	
Loew's State Theatre and Office Building	2
<i>Thomas W. Lamb</i>	
Masonic Temple	1-3
<i>Sam Stone, Jr.</i>	
Public Service Building	1-2
<i>Favrot & Livaudais, Ltd.</i>	
Roosevelt Hotel	1
<i>Favrot & Livaudais, Ltd.</i>	

SHIREVEPORT

Caddo Parish Courthouse	2
<i>Edw. F. Neild</i>	
Ricou Building	1
<i>Joseph Finger</i>	
Slattery Building	1
<i>Mann & Stern</i>	
Washington Hotel	1
<i>Mann & Stern</i>	

MARYLAND

BALTIMORE

Aged Catholic Ladies' Home	3
<i>Geo. R. Callis, Jr.</i>	
Church Home and Infirmary Addition	1-2-4
<i>Wyatt & Nolting</i>	

HAVRE DE GRACE

Conowingo Project	4
<i>Stone & Webster, Inc.</i>	

WESTMINSTER

Western Maryland College	2
<i>Chas. M. Anderson</i>	

MASSACHUSETTS

BOSTON

Beacon Trust Building	2
<i>A. H. Bowditch</i>	
Federal Street Building	1-2
<i>Lockwood, Greene & Co.</i>	
Flagg Estate Trust Building	2
<i>Parker, Thomas & Rice</i>	

HUDSON

Firestone-Apsley Building	2
<i>Osborn Engineering Co.</i>	

LAWRENCE

Merchants Trust Co. Building	2
<i>Codman & Despradelle</i>	

MICHIGAN

ANN ARBOR

Michigan State Telephone Co. Building	2
<i>Smith, Hinchman & Grylls</i>	
Nurses Home	1-2
<i>Albert Kahn, Inc.</i>	
The Thomas Henry Simpson Memorial Institute	1-2
<i>Albert Kahn, Inc.</i>	

BATTLE CREEK

Battle Creek Sanitarium	1-2-3
<i>M. J. Morehouse</i>	
Bell Telephone Building	2
<i>Smith, Hinchman & Grylls</i>	

BAY CITY

Nurses Home, Mercy Hospital	2
<i>Van Leyen, Schilling & Keough</i>	

DETROIT

Activities Building, League of Catholic Women	3
<i>Smith, Hinchman & Grylls</i>	
Basso Building	2
<i>Van Leyen, Schilling & Keough</i>	
Book-Cadillac Hotel	2-3
<i>Louis Kamper</i>	
Book Tower Building	2-3
<i>Louis Kamper</i>	
Capitol Theatre	1
<i>C. Howard Crane</i>	
Children's Hospital of Michigan	1-2
<i>Albert Kahn, Inc.</i>	
Digestive Ferment Building	2
<i>Donaldson & Meier</i>	
Eaton Towers	2-3
<i>Louis Kamper</i>	
Filtration Plant	2
<i>T. A. Leisen</i>	
General Motors Building	1-2
<i>Albert Kahn, Inc.</i>	
Hoffman Building	1-2
<i>Louis Kamper</i>	
Industrial Bank Building	3
<i>Louis Kamper</i>	
Kresge Store	2
<i>Herbert Longstaff</i>	
Residence Hall and Liberal Arts Building, Marygrove College	1-2
<i>D. A. Bohlen & Son</i>	
Low Lift Pumping Station	2
<i>T. A. Leisen</i>	

MICHIGAN [continued]

Oriental Theatre and Miles Hotel Building <i>P. R. Pereira</i>	1-2-3
Nurses Home, Michigan Children's Hospital <i>Albert Kahn, Inc.</i>	1-2
Penn-Detroit Freight House <i>B. V. Somerville</i>	2
Savoy Hotel <i>Louis Kamper</i>	3
Seward Homes <i>Louis Kamper</i>	3
Stanley Building <i>Brown, Preston & Derrick</i>	2
The Wardell Apartment Hotel <i>Weston & Ellington</i>	3
The Detroit Hotel <i>C. W. & Geo. L. Rapp</i>	3
Woodward-Duffield Building <i>Albert Kahn, Inc.</i>	1
ELOISE	
Eloise Hospital <i>Maul & Lenz</i>	2
FLINT	
Hurley Hospital <i>Thielbar & Fugard</i>	1-2-3
JACKSON	
Reynolds Building <i>Albert Kahn, Inc.</i>	2
Telephone Building <i>Smith, Hinchman & Grylls</i>	2
KALAMAZOO	
Michigan Bell Telephone Building <i>Smith, Hinchman & Grylls</i>	2
Women's Dormitory, Kalamazoo College <i>Albert Kahn, Inc.</i>	1-2
The State Theatre <i>John Ebersson</i>	2
PORT HURON	
Sperry Department Store <i>Waller H. Wyeth</i>	1
SPRINGWELLS	
Miller School Addition <i>H. J. Keough</i>	2
MINNESOTA	
FERGUS FALLS	
St. Luke's Hospital <i>J. P. Vanderbilt</i>	1-3
MINNEAPOLIS	
St. Andrew's Hospital <i>Sund & Dunham</i>	3
NORTHFIELD	
Margaret Evans Hall, Carlton College <i>Holmes & Flinn</i>	3
ST. CLOUD	
St. Cloud's Hospital <i>Richard E. Schmidl, Garden & Martin</i>	2
ST. PAUL	
Macalester College Dormitory <i>Electus D. Litchfield & Rogers</i>	3
Macalester Jr. High School <i>F. X. Tewes</i>	3

MISSISSIPPI

BILOXI	
Edgewater Gulf Hotel <i>Benjamin H. Marshall</i>	1-3
GULFPORT	
Markham Hotel <i>Benjamin H. Marshall</i>	1-3
JACKSON	
Lamar Life Insurance Building <i>Sanguinet, Staats & Hedrick Associates</i> <i>N. W. Overstreet Architects</i>	1-2

MISSOURI

KANSAS CITY	
Armour Apartment Building <i>Philip T. Drolls</i>	1-2
Board of Trade Building <i>McKecknie & Trask</i>	2
City Bank Building <i>Holden, Ferris & Barnes</i>	1-2
Hyde Park Hotel <i>Robert Gornall</i>	1-2
Kansas City Club <i>Smith, Rea & Lovitt</i>	1-2
Kansas City Athletic Club <i>Hoit, Price & Barnes</i>	2
Keith Furniture and Carpet Building <i>Hoit, Price & Barnes</i>	1-2
Land Bank Building <i>Keene & Simpson</i>	1-2
Mercy Hospital <i>Hoit, Price & Barnes</i>	2-3
Midland Theatre and Office Building <i>Thomas W. Lamb</i>	2-3
Office and Medical Arts Building <i>Geo. B. Post & Sons</i>	1-2-3
Lillis Building <i>Frederick E. McIlvain</i>	1
President Hotel <i>Shepard & Wiser</i>	1-2
Spaulding Cloak Co. <i>Frederick E. McIlvain</i>	1-2
Wyandotte County Courthouse <i>Wight & Wight</i>	1-2
ST. JOSEPH	
City Hall <i>Eckel Aldrich</i>	1
ST. LOUIS	
Beaumont Medical Building <i>LaBeaume & Klein</i>	3
City Club <i>T. P. Barnett</i>	1
Isolation Hospital <i>A. Osburg</i>	1-2
Loew's State Theatre <i>Thomas W. Lamb</i>	2
Lutheran Hospital <i>Theo. Steinmeyer</i>	4
B. Nugent Department Store <i>Mauran, Russell & Crowell</i>	2
Nurses Training School <i>Wilbur T. Trueblood & Hugo K. Graf</i>	3
Planters Hotel <i>LaBeaume & Klein</i>	1-2

MISSOURI [continued]

Public School Stadium	2
<i>R. M. Milligan</i>	
Security Building	1
<i>LaBeaume & Klein</i>	
Shell Building	2-3
<i>James P. Jamieson & George W. Spear</i>	
Town Club	1
<i>Mauran, Russell & Crowell</i>	
SEDALIA	
Pettis County Courthouse	2
<i>Wm. E. Hulse & Co.</i>	
SPRINGFIELD	
Women's Dormitory, Drury College	3
<i>Ferrand & Fitch</i>	
NEBRASKA	
LINCOLN	
Cornhusker Hotel	3
<i>Alonzo H. Gentry</i>	
Realty Syndicate Building	1-2-3
<i>Joseph G. McArthur</i>	
OSCEOLA	
Polk County Courthouse	2
<i>W. F. Gernandt</i>	
NEW JERSEY	
ASBURY PARK	
Berkeley Cartaret Hotel	1-2
<i>Warren & Wetmore</i>	
ATLANTIC CITY	
Seaside Hotel	1
<i>Lockwood, Greene & Co.</i>	
CAMDEN	
Campbell Soup Co. Building	1-2
<i>Wm. Steele & Sons Co.</i>	
Congress Cigar Co. Building	2
<i>Le Roy B. Rothschild</i>	
Pinsky Department Store	1
<i>Solomon Kaplan</i>	
Wilson Building	1-2-3
<i>Le Roy B. Rothschild</i>	
LONG BRANCH	
Garfield Grant Hotel	3
<i>William Van Alen</i>	
NEWARK	
L. Bamberger & Co. Store	1
<i>Private Plans</i>	
B. P. O. Elks Clubhouse	1-2-3
<i>Warren & Wetmore</i>	
Chamber of Commerce Building	1-2
<i>Guilbert & Betelle</i>	
Newark Maternity Hospital	1-2
<i>Stasse & Barnes</i>	
Ritz Apartments	1
<i>Wm. E. Lehman</i>	
972 Broad Street Building	2-3
<i>Wm. E. Lehman</i>	
PLAINFIELD	
Tepper Bros. Department Store	1
<i>Private Plans</i>	

NEW YORK

ALBANY	
Albany Hospital and Medical College	1-2-4
<i>Berlin & Swern</i>	
City Savings Bank Building	1-2
<i>Marcus T. Reynolds</i>	
Junior High School	2
<i>Marcus T. Reynolds } Associate Kenneth G. Reynolds } Architects</i>	
Kurzrock Building	1-2
<i>Marcus T. Reynolds</i>	
New York State Bank Building	1-2-3
<i>Henry Ives Cobb</i>	
BROOKLYN	
Gates Avenue Theatre	2
<i>Thomas W. Lamb</i>	
Court Montague Building	1-2
<i>H. Craig Severance</i>	
Hotel St. George	1-2-3
<i>Emery Roth</i>	
Municipal Bank Building	1-2
<i>Cohn & Cohn</i>	
Travelers Insurance Building	2-3
<i>Philip Freshman</i>	
187 Joralemon Street Building	1-2-3
<i>Henry I. Oser</i>	
95 Eastern Parkway Apartment Building	1-2
<i>Charles Goell</i>	
BUFFALO	
Chemistry Building, University of Buffalo	1
<i>McKim, Mead & White</i>	
Elementary School No. 79	1
<i>Ernest Crimi</i>	
Merey Hospital	1
<i>Henry L. Spann } Associate William T. Spann } Architects</i>	
School No. 73	2-1
<i>Wm. B. Illner</i>	
JACKSON HEIGHTS	
Elmhurst Theatre	2
<i>Herbert J. Krapp</i>	
JAMAICA	
Jamaica Hospital	2
<i>M. L. & H. G. Emery</i>	
LOCKPORT	
Y. M. C. A.	2
<i>John F. Jackson</i>	
MT. VERNON	
Mt. Vernon Hospital	1
<i>Crow, Lewis & Wick</i>	
NEW ROCHELLE	
Professional Building	1-2
<i>Townsend, Steintz & Haskell</i>	
Ware Department Store	1
<i>Townsend, Steintz & Haskell</i>	
NEW YORK	
Bainbridge Avenue Apartment Building	1-2
<i>Private Plans</i>	
Ritz Tower	1
<i>Emery Roth } Associate Thomas Hastings } Architects</i>	
The Westover Apartment Hotel	1-3
<i>Schwartz & Gross</i>	

NEW YORK [continued]

Court Square Building	1-2-3
<i>Buchman & Kahn</i>	
500 Madison Avenue Apartment Building	1
<i>Warren & Wetmore</i>	
Barclay Hotel	1
<i>Cross & Cross</i>	
Franklin Towers	1-2-3
<i>Wm. I. Hohausser, Inc.</i>	
Academy of Music	2
<i>Thomas W. Lamb</i>	
92nd Street and Park Avenue Apartment Bldg.	1-2
<i>Geo. F. Pelham, Inc.</i>	
36th Street and Eighth Avenue Building	1-2-3
<i>George & Edward Blum</i>	
820 Park Avenue Apartment Building	1-2-3
<i>Harry Allen Jacobs</i>	
Madison Square Garden Offices	1-2-3
<i>Geo. F. Pelham, Inc.</i>	
St. Marks Hospital	2-4
<i>Crow, Lewis & Wick</i>	
86th St. and Madison Ave. Apartment Building	1-2
<i>Sugarman & Berger</i>	
The Windermere Apartment Building	1-3
<i>Schwartz & Gross</i>	
106th St. & Riverside Drive Apartment Bldg.	1-2
<i>Sugarman & Berger</i>	
111th Street and Broadway Apartment Building	1-2
<i>Sugarman & Berger</i>	
Savoy-Plaza Hotel	1-2-3
<i>McKim, Mead & White</i>	
The Winton Apartments	1-2-3
<i>Emery Roth</i>	
129 East 21st Street Apartment Building	1-2-3
<i>G. A. & H. Boehm</i>	
433 East 57th Street Apartment Building	1-2-3
<i>Emery Roth</i>	
Fred F. French Building	1-2
<i>Fred F. French Co.</i>	
American Book Co. Building	1-2
<i>Necarsulmer & Lehlbach</i>	
Graybar Building	2
<i>Sloan & Robertson</i>	
50 Broadway Building	1-2
<i>H. Craig Severance</i>	
Sherry-Netherlands Hotel	2-3
<i>Schultze and Weaver</i>	
660 Park Avenue Apartment Building	1-2
<i>York & Sawyer</i>	
Alexander Wilson Building	1-2-3
<i>Sloan & Robertson</i>	
The Lombardy Apartment Hotel	1-3
<i>Farrar & Walmough</i>	
Empire Trust Co. Building	1-2-3
<i>Warren & Wetmore</i>	
677 West End Avenue Apartment Building	1-2
<i>Leo F. Knust</i>	
Hotel St. Regis	1
<i>Sloan & Robertson</i>	
American Bond & Mortgage Co. Building	1-2
<i>Sugarman, Hess & Berger</i>	
Childs Restaurant Building	1-2
<i>H. Craig Severance</i>	
300 Park Avenue Apartment Building	1-2
<i>Warren & Wetmore</i>	
Loew's State Theatre Building	1-2
<i>Thomas W. Lamb</i>	

NEW YORK [continued]

Hotel Plaza	2
<i>Warren & Wetmore</i>	
Hamilton Place Apartment Building	1-2
<i>Geo. F. Pelham, Inc.</i>	
Hamilton Place Apartment Hotel	1-2
<i>Herbert J. Krapp</i>	
35 East 84th Street Apartment Building	1-2
<i>Geo. F. Pelham, Inc.</i>	
Bar Association Building	1-2
<i>Severance & Van Alen</i>	
Manhattan College	2
<i>O'Connor & Delany</i>	
Greenwich Bank	1
<i>Geo. F. Pelham, Inc.</i>	
Pershing Square Building	1-2
<i>John Sloan } Associate York & Sawyer } Architects</i>	
New York Cotton Exchange	2
<i>Donn Barber</i>	
168 West 86th Street Apartment Building	1-2-3
<i>Schwartz & Gross</i>	
New York Times Annex Building	1
<i>Ludlow & Peabody</i>	
Gilford Apartments	1-2-3
<i>Emery Roth</i>	
Arnold, Constable & Co. Store	1
<i>Private Plans</i>	
1009 Park Avenue Apartment Building	1-2-3
<i>Emery Roth</i>	
Title Guarantee & Trust Co. Building	1-2
<i>John Mead Howells</i>	
270 Madison Avenue Building	1-2-3
<i>Rouse & Goldstone</i>	
245 West 74th Street Apartment Building	1-2
<i>Sugarman, Hess & Berger</i>	
17 East 96th Street Apartment Building	3
<i>Sugarman, Hess & Berger</i>	
The Whitby Apartments	1-2-3
<i>Emery Roth</i>	
131 East 50th Street Apartment Building	1-2-3
<i>Emery Roth</i>	
Park Chambers	3
<i>Rouse & Goldstone</i>	
33 Fifth Avenue Apartment Building	3
<i>Sugarman & Berger</i>	
Hotel Madison	1-2-3
<i>Rouse & Goldstone</i>	
933 Park Avenue Apartment Building	1-2-3
<i>Sugarman & Berger</i>	
156 East 37th Street Apartment Building	3
<i>Geo. F. Pelham, Inc.</i>	
20 East 49th Street Building	1-2-3
<i>Emery Roth</i>	
1 West 47th Street Building	1-2-3
<i>Cross & Cross</i>	
617 West End Avenue Apartment Building	1-2-3
<i>Schwartz & Gross</i>	
102 West 42nd Street Building	1-2-3
<i>Julius Eckman</i>	
65 East 85th Street Apartment Building	1-2-3
<i>Schwartz & Gross</i>	
Riverside Drive, 111th to 112th Sts. Apt. Bldg.	1-2-3
<i>G. Ajello</i>	
77th St. and West End Ave. Apartment Building	1-2-3
<i>Sugarman & Berger</i>	

NEW YORK [continued]	
860 Park Avenue Apartment Building <i>York & Sawyer</i>	3
1556 Broadway Building <i>Bethlehem Engr. Corp.</i>	1-2-3
The Cardinal Apartment Hotel <i>Emery Roth</i>	1-2-3
Gramercy Park Hotel <i>Robert T. Lyons</i>	1-2-3
The Randolph Apartments <i>Cross & Cross</i>	3
R. R. Co-op. Bldg. & Loan Ass'n Building <i>Ludlow & Peabody</i>	1-2
164th Street and Fort Washington Avenue Apartment Building <i>J. M. Felson</i>	3
23 East 74th Street Apartment Hotel <i>Schwartz & Gross</i>	3
Butler Hall <i>Geo. F. Pelham, Inc.</i>	1-2-3
141 West 86th Street Apartment Building <i>J. M. Felson</i>	2-3
151 East 79th Street Apartment Building <i>Rouse & Goldstone</i>	3
The Woolsey Apartment Hotel <i>Emery Roth</i>	1-2-3
Murray Hill Office Building <i>Rouse & Goldstone</i>	1-2-3
250 West 94th Street Apartment Building <i>Sugarman & Berger</i>	1-2-3
74th St. and Park Ave. Apartment Building <i>George & Edward Blum</i>	1-3
74th St. and Lexington Ave. Apartment Building <i>Geo. F. Pelham, Inc.</i>	3
Franklin Savings Bank <i>York & Sawyer</i>	1-2
10 West 86th Street Apartment Building <i>Geo. F. Pelham, Inc.</i>	3
704 West End Avenue Apartment Building <i>Schwartz & Gross</i>	3
Labor Temple <i>Emery Roth</i>	3
James McCutcheon Store <i>Starrett & Van Vleck</i>	1-2-3
1 Park Avenue Building <i>York & Sawyer</i>	1-2-3
Forrest Theatre and Hotel <i>Herbert J. Krapp</i>	1-2-3
15 East 69th Street Apartment Hotel <i>Geo. F. Pelham, Inc.</i>	1-2-3
Hotel Manger <i>H. Craig Severance</i>	1-2-3
The Alden Apartments <i>Emery Roth</i>	1-2-3
Lords Court <i>Private Plans</i>	1
Wadsworth Building <i>Sloan & Robertson</i>	1-2
The Dorset Apartment Hotel <i>Emery Roth</i>	1-2-3
The Drake Apartment Hotel <i>Emery Roth</i>	1-2-3
ROCHESTER	
Haddon Hall Apartments <i>W. J. Fuehrer</i>	1-3
St. Paul Court Apartments <i>L. H. Friedman</i>	3

NEW YORK [continued]	
RYE	
Westchester-Biltmore Country Club <i>Warren & Wetmore</i>	1-2
SCHENECTADY	
Y. M. C. A. <i>Helmle & Corbell</i>	3
SYRACUSE	
Bill-Jim Building <i>LaVaule & Mulranen</i>	2
LaFayette Building <i>LaVaule & Mulranen</i>	1-2-3
Medical Center Building <i>Wolf Markham</i>	1
Ray Building <i>Webster C. Moullon</i>	1-3
TROY	
Troy Bank <i>Halsey, McCormack & Helmer, Inc.</i>	1-2
WINGDALE	
Harlem Valley State Hospital <i>Sullivan W. Jones</i>	1-2-4
YONKERS	
School No. 2 <i>G. H. Chamberlin</i>	3
NORTH CAROLINA	
ASHEVILLE	
City Hall Building <i>Douglas D. Ellington</i>	1-2-3
CHARLOTTE	
Lambeth Building <i>M. R. Marsh</i>	1
DURHAM	
Duke University <i>Horace Trumbauer</i>	2-3
GASTONIA	
Gastonia City Hospital <i>Wilson & Barrymun</i>	1-2
GOLDSBORO	
New State Hospital <i>H. A. Underwood</i>	2
OTEEEN	
United States Public Service Hospital No. 60 <i>J. A. Wetmore</i>	1
PINEHURST	
Pine Needle Inn <i>Huven & Hoyt</i>	1-3
SALISBURY	
V. Wallace & Sons Office Building <i>Private Plans</i>	1
SIMMS	
Rock Ridge School <i>Chas. C. Wilson</i>	2
OHIO	
CINCINNATI	
Belvedere Apartment Building <i>C. H. Ferber</i>	3
Deaconess Hospital <i>Samuel Hannaford & Sons</i>	4

OHIO [continued]

Madison Court Apartment Building	3
<i>Samuel Hannaford & Sons</i>	
Sacred Heart Guild	3
<i>Crowe & Schulte</i>	
CLEVELAND	
Cleveland Heights High School	2
<i>Franz C. Warner</i>	
Coventry Road School	2
<i>Kranz C. Warner</i>	
Engineers Bank Building	1-2
<i>Knox & Elliot</i>	
Fire Station No. 28	2
<i>Herman Kregelius</i>	
B. F. Keith's Theatre and Office Building	2
<i>C. W. & Geo. L. Rapp</i>	
Municipal Light Plant	2
<i>Herman Kregelius</i>	
Terminal Tower Building	2
<i>Graham, Anderson, Probst & White</i>	
Union Trust Building	2
<i>Graham, Anderson, Probst & White</i>	
COLUMBUS	
Robert's Cloak Co. Building	1
<i>Richards, McCarthy & Bulford</i>	
DAYTON	
Johnston-Shelton Store	1
<i>Frank Hill Smith, Inc.</i>	
Kresge Store	2
<i>S. S. Kresge Co.</i>	
Lowe's Apartment Building	3
<i>Geyer & Neuffer</i>	
GLENDALE	
Home for Friendless	3
<i>Harry Hake & Charles H. Kuck</i> } Associates Architects	
HAMILTON	
Anthony Wayne Hotel	3
<i>Frederick G. Mueller-Walter R. Hair</i>	
KENT	
New High School	2
<i>The Mills & Millspaugh Co.</i>	
LANCASTER	
New Power House	2
<i>Herbert B. Briggs</i>	
LORAIN	
Broadway Building	1-2-3
<i>Ernest McGeorge</i>	
MARIETTA	
Safe Cabinet Co.	2
<i>Schenck & Williams</i>	
MILFORD	
Milford Novitiate	3
<i>Crowe & Schulte</i>	
MT. ST. JOSEPH	
The Sisters of Charity Building	3
<i>Crowe & Schulte</i>	
OKLAHOMA	
ENID	
General Hospital	1-3
<i>R. W. Shaw</i>	

OKLAHOMA [continued]

GUTHRIE	
Masonic Home	1
<i>Hawk & Parr</i>	
OKLAHOMA CITY	
Kerr Dry Goods Co.	1
<i>W. T. Schmidt</i>	
Perrine Building	1-2
<i>Hawk & Parr</i>	
TULSA	
Mayo Building	1
<i>Private Plans.</i>	
Mayo Hotel	2
<i>George Winkler</i>	
PENNSYLVANIA	
HARRISBURG	
2nd and Liberty Street Building	1
<i>C. O. Irvine</i>	
Riverview Manor	3
<i>Clayton J. Lappley</i>	
LANCASTER	
Y. M. C. A.	2
<i>C. Emlen Urban</i>	
OAKMONT	
Oakmont Public School	2
<i>W. G. Eckies Co.</i>	
PHILADELPHIA	
A. M. E. Church Office Building	3
<i>Clyde S. Adams</i>	
Earle Theatre	1
<i>Hoffman-Henon Co.</i>	
Equitable Building	3
<i>A. F. Gilbert</i>	
Fox Theatre Building	2
<i>Thomas W. Lamb</i>	
Garden Court Apartment Building	1
<i>Richard C. Loos</i>	
Girard Craftsman's Club	1
<i>Clyde S. Adams</i>	
Girard Trust Co. Building	1-2-3
<i>McKim, Mead & White</i>	
Jos. J. Greenberg Warehouse	2
<i>LeRoy B. Rothschild</i>	
Mutual Trust Co. Building	1-2-3
<i>Heacock & Hokanson</i> } Associate <i>Bullinger Co.</i> } Architects	
Richmond Station, Philadelphia Electric Co.	1
<i>Stone & Webster, Inc.</i>	
The Warwick Apartment Hotel	1-3
<i>Frank E. Hahn</i> } Associate <i>S. Brian Baylinson</i> } Architects	
49th and Pine Streets Apartment Building	1
<i>Clarence E. Wunder</i>	
1700 Walnut Street Building	1-2
<i>LeRoy B. Rothschild</i>	
PITTSBURG	
Allen School	2
<i>Board of Education Building Department</i>	
Allegheny Branch, Y. M. C. A.	2-3
<i>Robert Maurice Trimble</i>	
Hazelwood School	2
<i>Board of Education Building Department</i>	
Taylor-Allderdice High School	1-2
<i>Robert Maurice Trimble</i>	

PENNSYLVANIA [continued]

Webster Hall <i>H. Hornbostel</i> } Associate <i>Eric Fisher Wood & Co.</i> } Architects	3
POCONO SUMMIT	
Pocono Manor Inn <i>Waller Smedley</i>	3
READING	
Reading Hospital <i>Richter & Eiler</i>	1-2
SCRANTON	
Scranton Times Building <i>Davis & Lewis</i>	1-2
SUNBURY	
M. H. Markley Building <i>C. W. Feil Company</i>	1
TAMAQUA	
Jennings Furniture Co. Building <i>B. R. Stevens</i>	1-2
WILKES BARRE	
Mercy Hospital <i>James A. McGlynn</i>	2

SOUTH CAROLINA

CHARLESTON	
St. Francis Xavier Infirmary <i>F. Ferdinand Durang</i>	1

SOUTH DAKOTA

SANATOR	
South Dakota State Sanatorium <i>Kings & Dixon</i>	2
SIOUX FALLS	
Freese-Rohde Investment Co. Building <i>Perkins & McWayne</i>	1
Grand Lodge Library <i>Hugill & Blatherwick</i>	2

TENNESSEE

CHATTANOOGA	
Provident Life Insurance Building <i>R. H. Hunt Co.</i>	1
The New Read House Hotel <i>Holabird & Roche</i>	3
MEMPHIS	
B. P. O. Elks Building <i>Geo. Mahan, Jr. & J. J. Broadwell</i>	3
Farnsworth Building <i>E. L. Harrison</i>	2
Memphis Cotton Exchange <i>Geo. Mahan, Jr. & J. J. Broadwell</i>	1
Physicians and Surgeons Building, Baptist Memorial Hospital <i>C. O. Pfeil & Geo. Awsumb</i>	1-2-3
Union and Planters Bank Building <i>McKim, Mead & White</i> } Associate <i>Louis G. Carlisle</i> } Architects	2
NASHVILLE	
American Trust Co. Building <i>Henry C. Hibbs</i>	2-3
Sunday School of Baptist Church <i>Hart, Freeland & Roberts</i>	2

TEXAS

AMARILLO	
Oliver Rea Eakle Building <i>Wyatt C. Hedrick</i>	1
AUSTIN	
Biology Building, University of Texas <i>Herbert M. Greene Co.</i>	1-2
Texas Hotel <i>Sanguinet, Staats & Hedrick</i>	1-2
BEAUMONT	
Goodhue Building <i>Tisdale & Stone</i>	1
San Jacinto Life Insurance Building <i>Sanguinet, Staats & Gottlieb</i> } Associate <i>Joseph C. Beck</i> } Architects	1-2
CORPUS CHRISTI	
Nixon Building <i>Adams & Adams</i>	1
DALLAS	
Dallas Cotton Exchange <i>Lang & Wittchell</i> } Associate <i>Thomson & Swaine</i> } Architects	1
Lone Star Gas Building <i>Lang & Wittchell</i>	1
Sanger Apartments <i>Lang & Wittchell</i>	1
Wholesale Merchants Building <i>Lang & Wittchell</i>	1
FORT WORTH	
All Saints Episcopal Hospital <i>Berlin & Swern</i>	2-1
Burton Building <i>Wyatt C. Hedrick</i>	1
Fort Worth Club <i>Sanguinet, Staats & Hedrick</i>	1-2
Fort Worth Hotel <i>Wyatt C. Hedrick</i>	1
Masonic Home and School <i>Herbert M. Greene Co.</i>	2
Medical Arts Building <i>Wyatt C. Hedrick</i>	1
Woolworth Building <i>W. G. Clarkson & Co.</i>	1
GALVESTON	
Jean Laffite Hotel <i>Andrew Fraser</i>	1
United States National Bank Building <i>Alfred C. Bossom</i> } Associate <i>Sanguinet, Staats & Hedrick</i> } Architects	1
GREENVILLE	
Greenville National Exchange Bank <i>Lang & Wittchell</i> } Associate <i>Lindsay & Kilmer</i> } Architects	1
HOUSTON	
First National Bank Building <i>Sanguinet, Staats, Hedrick & Gottlieb</i>	1-2
Houston Cotton Exchange <i>Sanguinet, Staats, Hedrick & Gottlieb</i>	1-2
Post-Dispatch Building <i>Sanguinet, Staats & Hedrick</i>	1-2
LUBBOCK	
Lubbock Hotel <i>Sanguinet, Staats & Hedrick</i>	1

TEXAS [continued]

MINERAL WELLS

Crazy Water Hotel 1
*Lang & Wilchell } Associate
Withers & Merrell } Architects*

SAN ANTONIO

A. B. Frank Building 1
Atlee B. & Robert M. Ayres

Frost National Bank 1-2
Sanguinet & Staats

National Bank of Commerce 1
Adams & Adams

Smith Brothers Hotel 1
Atlee B. & Robert M. Ayres

TEXARKANA

Texarkana Hotel 2
Mann & Slern

WICHITA FALLS

City and County Hospital 1-2
Sanguinet & Staats

Snider Harvey Building 1
Sanguinet, Staats & Hedrick

Perkins Snider Building 1
Sanguinet, Staats & Hedrick

UTAH

OGDEN

Weber County High School 2-3
M. Charles Woods

SALT LAKE CITY

Medical Arts Building 1
Cannon & Felzer

VERMONT

MONTPELIER

National Life Insurance Building 2
Cram & Ferguson

VIRGINIA

DANVILLE

New Danville Hotel and Theatre Building 3
H. A. Underwood Co.

NORFOLK

United States Public Health Service Hospital 1
J. A. Wetmore

ROANOKE

Colonial National Bank 3
Frye & Stone

WYTHEVILLE

The George Wythe Hotel 3
Frye & Stone

WASHINGTON

CHEHALIS

Lewis County Courthouse 1-2-3
J. de Forest Griffin

ROCKPORT

Gorge Plant, Skagit River Development 2
City of Seattle Bldg. Dept.

SEATTLE

Olympic Hotel 1
Geo. B. Post & Sons

North Sub Station, Skagit River Development 2
City of Seattle Bldg. Dept.

TACOMA

Fisher Department Store 1
Private Plans

WALLA WALLA

State Penitentiary 2
Julius A. Zittel

WEST VIRGINIA

CHARLESTON

Diamond Building 2
Charles A. Haviland

WISCONSIN

GRANVILLE

St. Marys Convent 3
E. Brielmaier & Sons Co.

JEFFERSON

St. Coletta Institute 3
E. Brielmaier & Sons Co.

KENOSHA

United States National Bank 1-2
Childs & Smith

MILWAUKEE

Schroeder Hotel 2-3
Holabird & Roche

WYOMING

CASPER

Townsend Hotel 2
Carbutt, Weidner & Sweeney

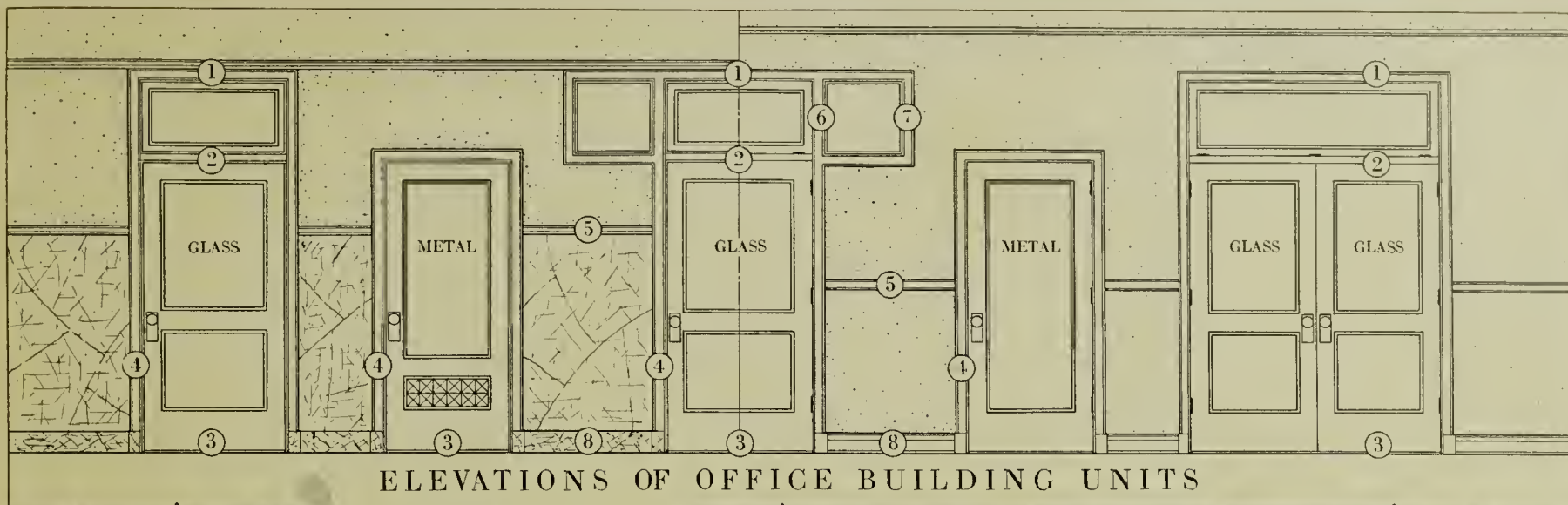
CANADA

LONDON- ONTARIO

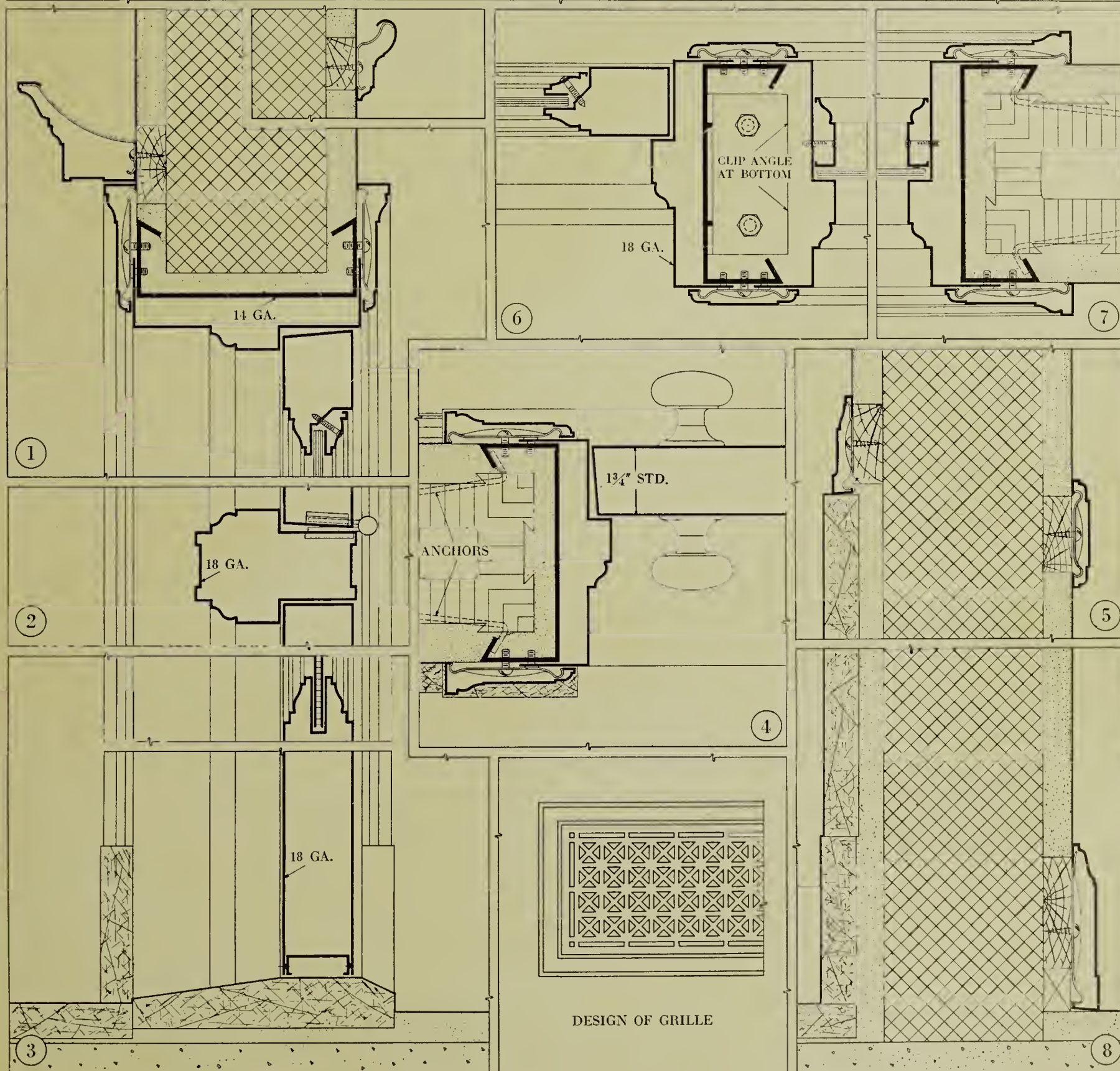
London Life Insurance Co. Building 1-2
John M. Moore & Co.

IN STRIVING for the utmost in beauty, permanence, safety and utility, the Architect turns more and more to the use of hollow metal. Naturally, as manufacturers of doors and trim of hollow metal construction, we are mutually interested with the Architect in expanding its application and many uses.

The following detail pages aim to provide the essential information needed by the Architect and Builder in detailing and specifying hollow metal doors and trim to meet almost any situation.

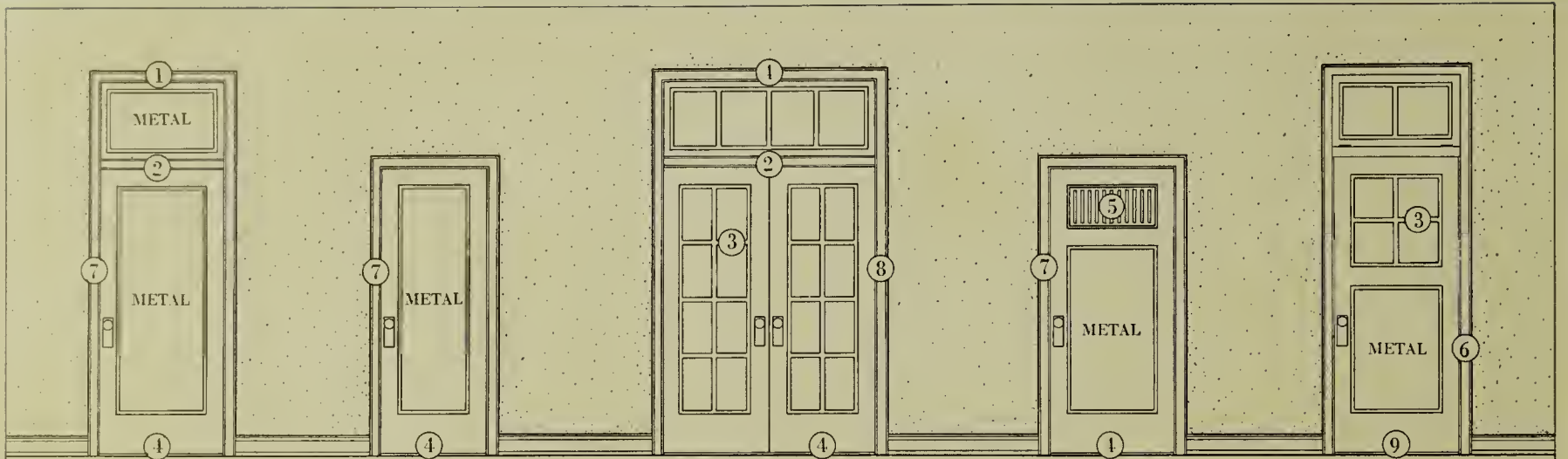


ELEVATIONS OF OFFICE BUILDING UNITS

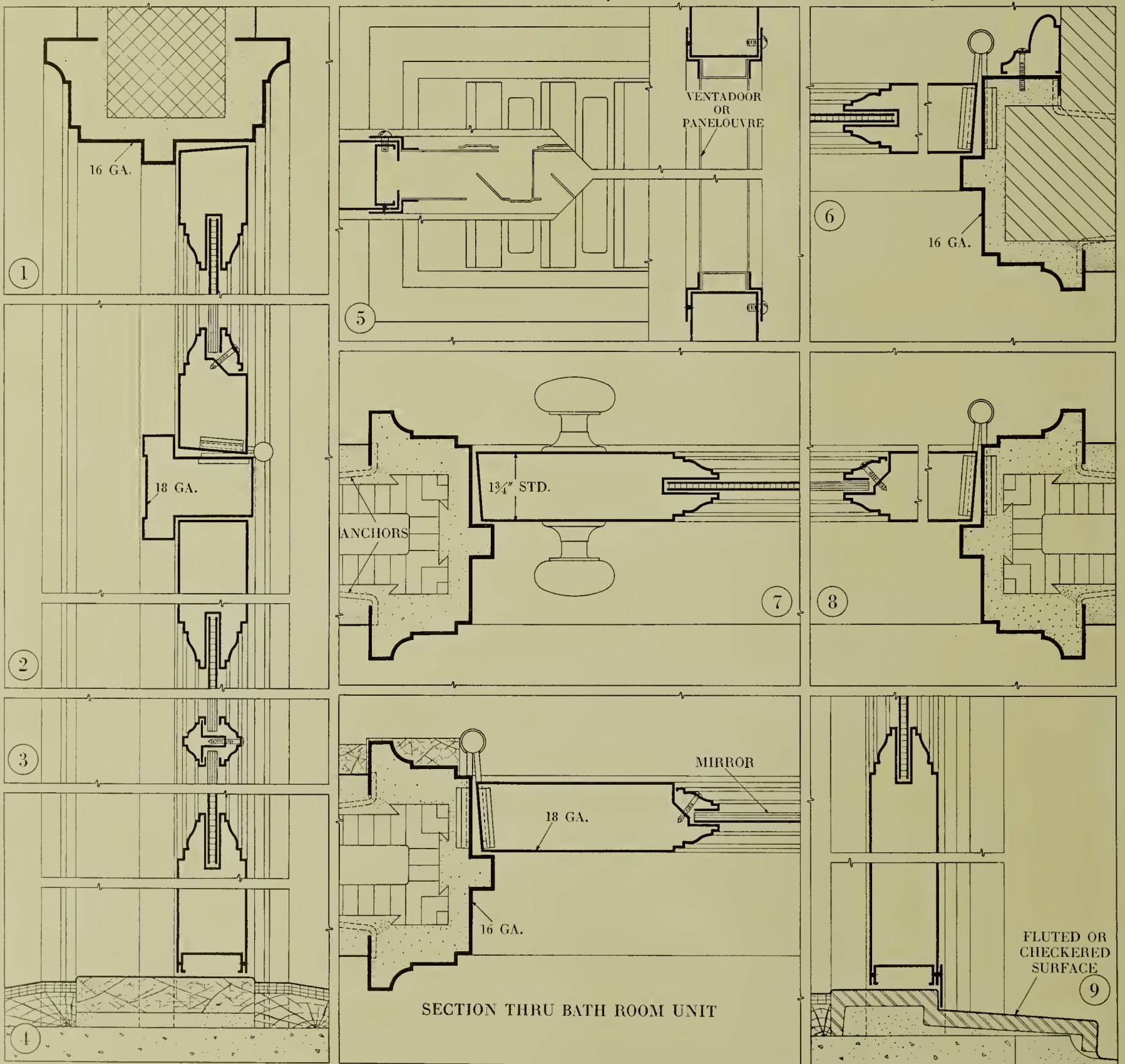


OFFICE BUILDING UNITS

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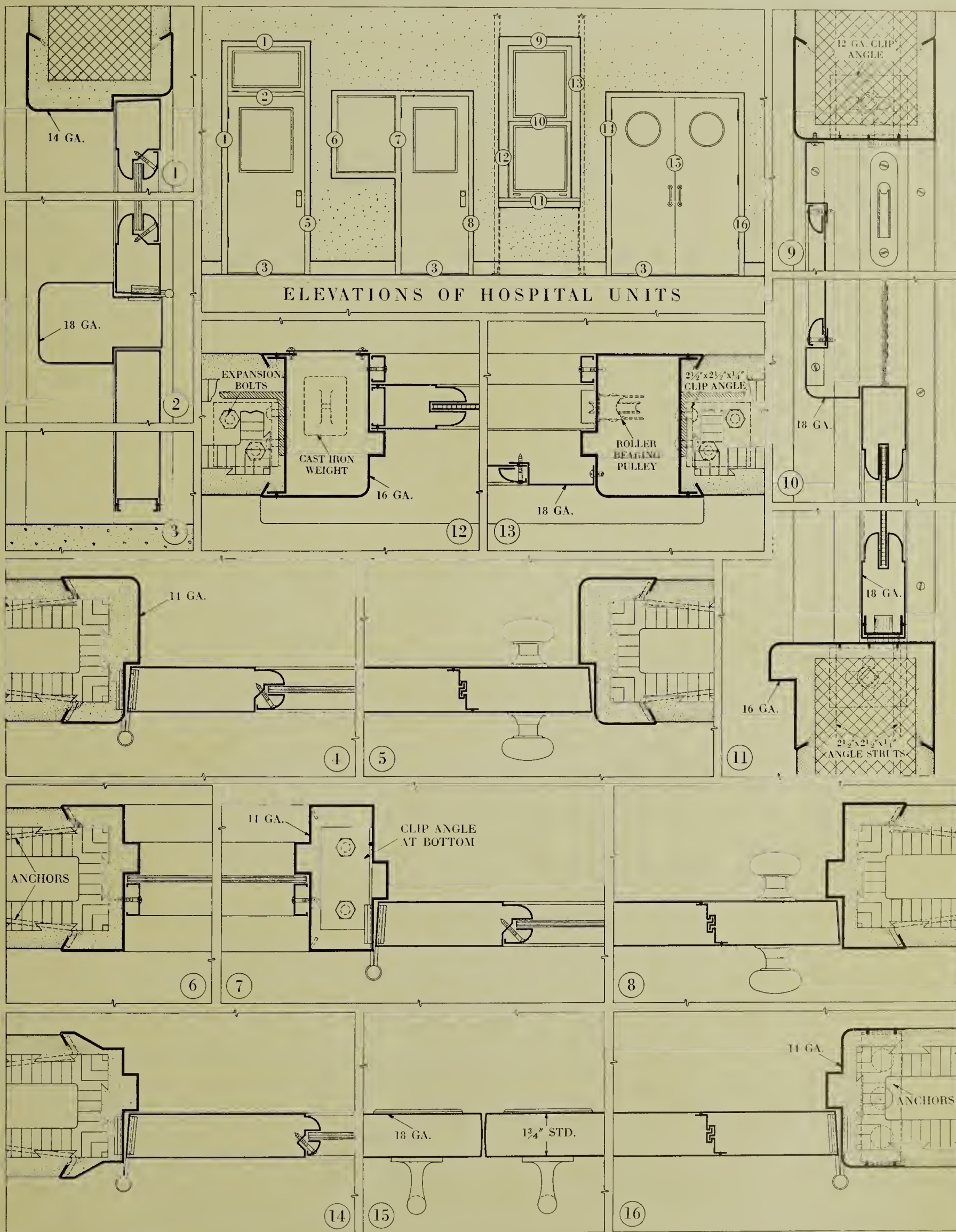
ELEVATIONS OF HOTEL AND APARTMENT HOUSE UNITS



SECTION THRU BATH ROOM UNIT

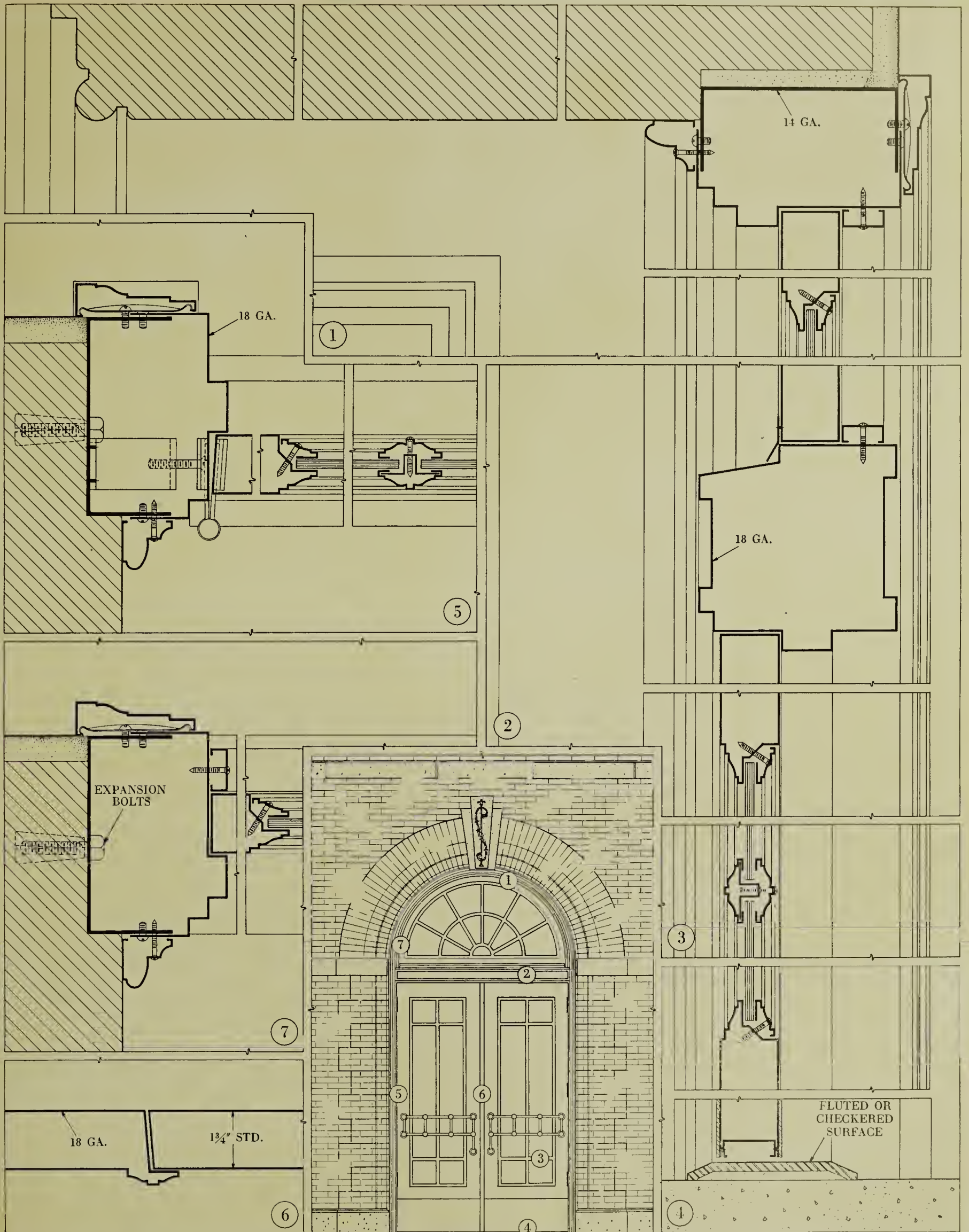
HOTEL AND APARTMENT HOUSE UNITS

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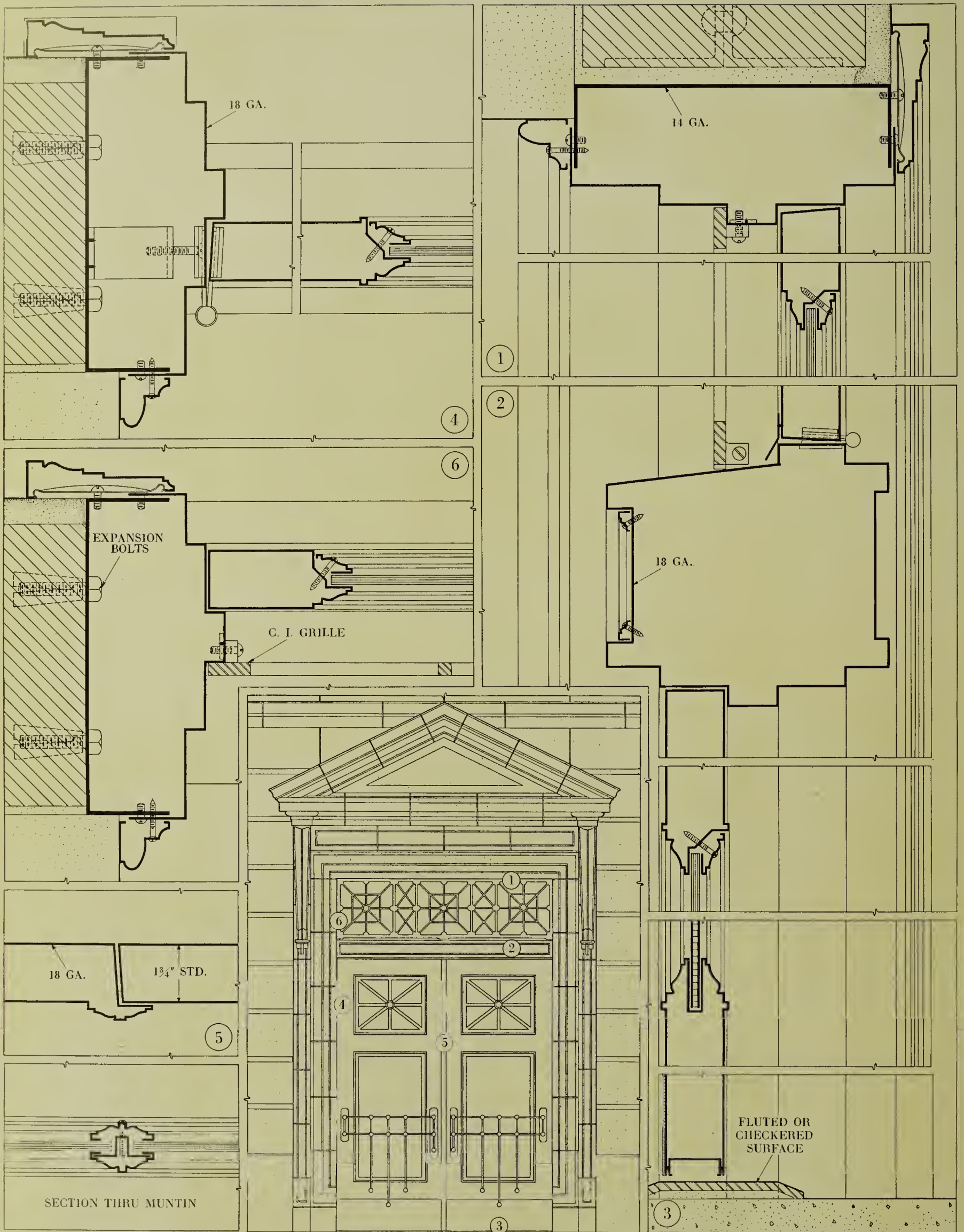
HOSPITAL UNITS

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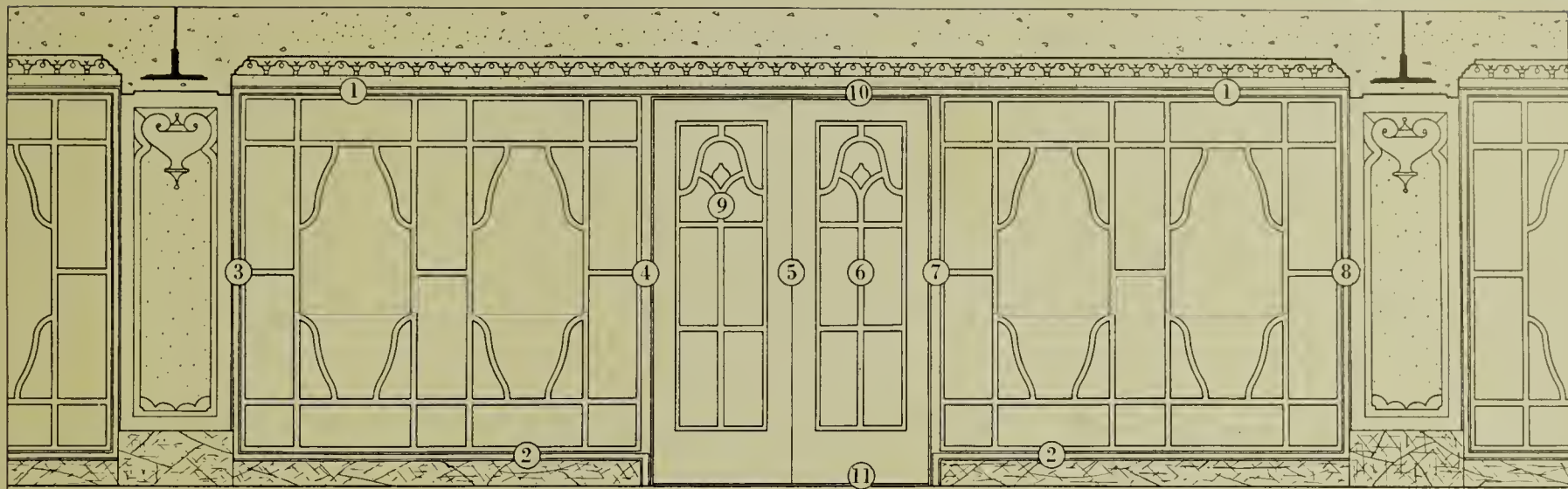
ENTRANCE UNIT

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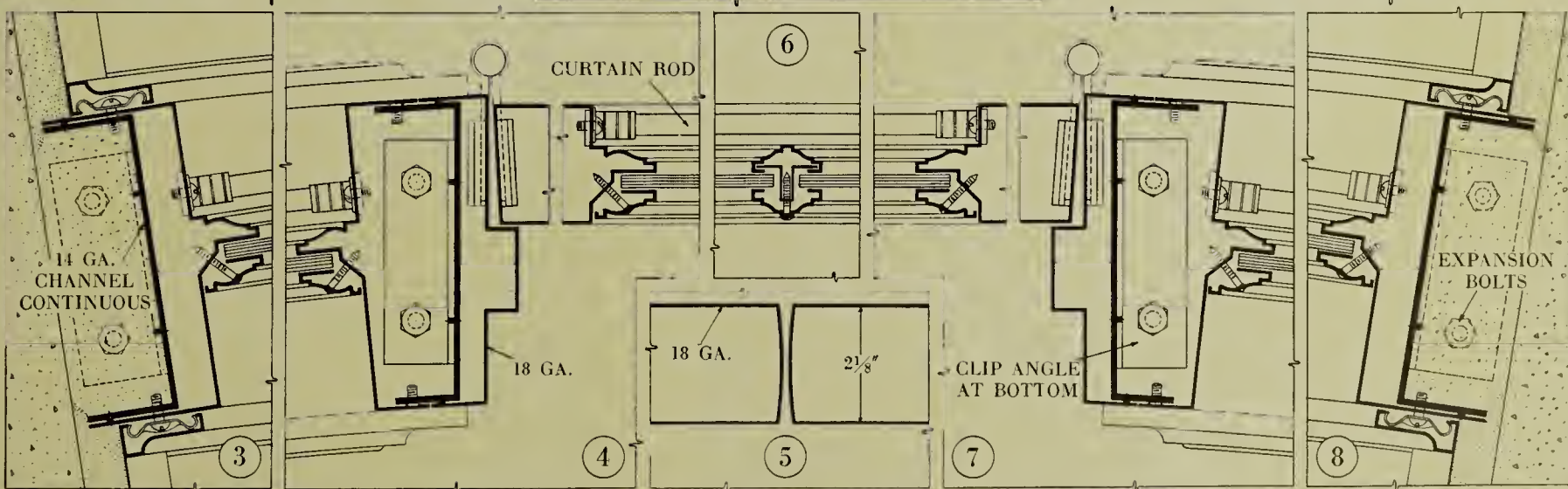
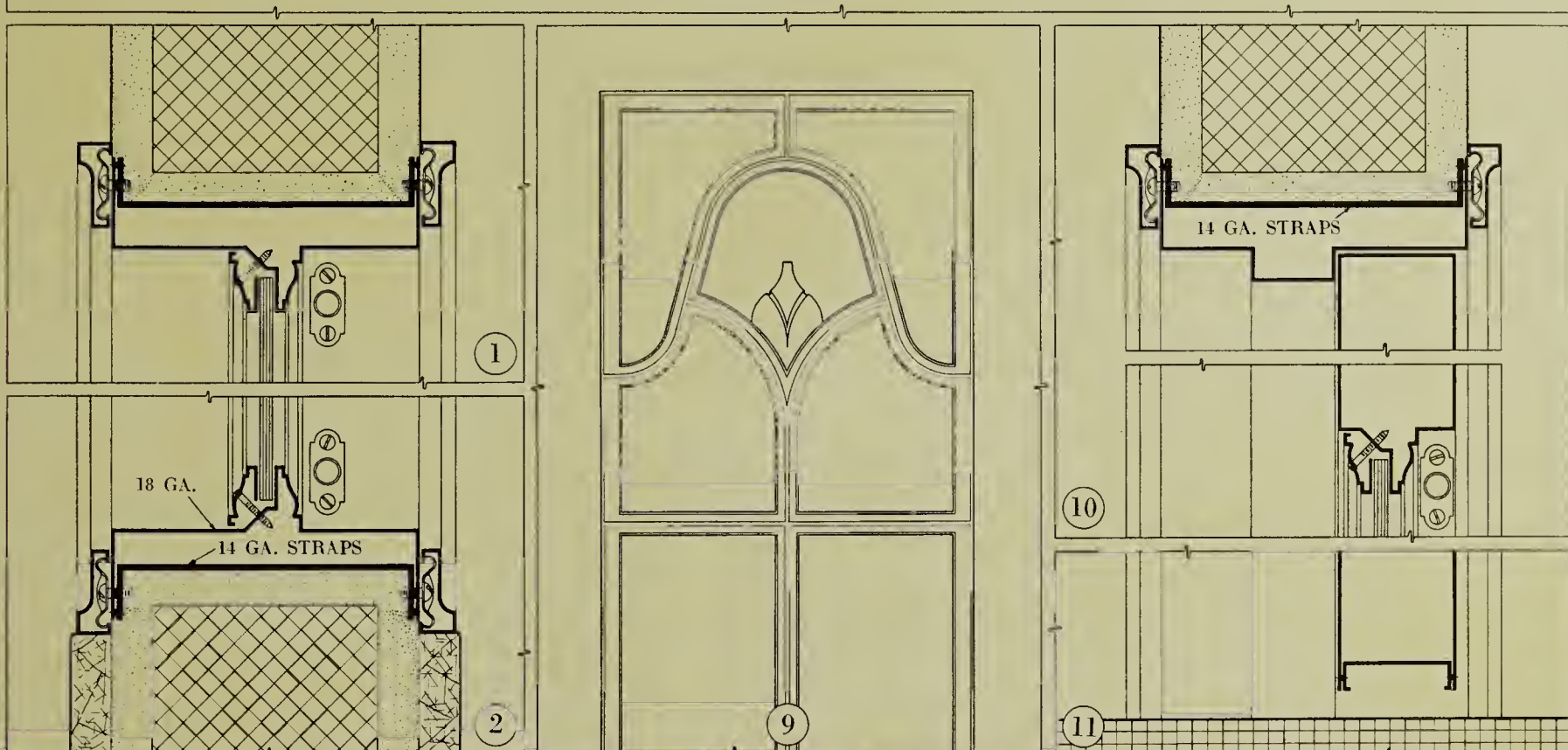


ENTRANCE UNIT

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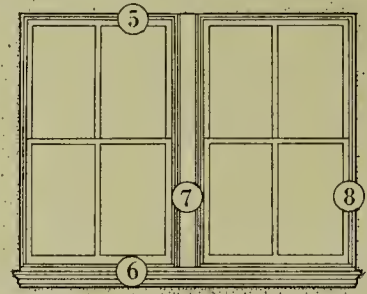
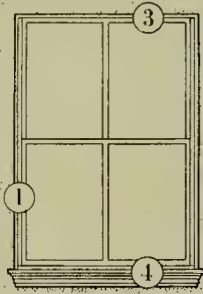
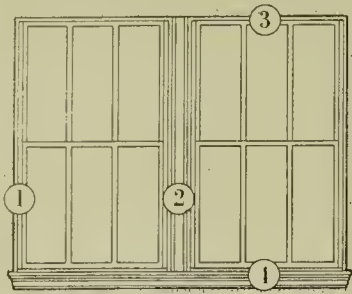


ELEVATION OF SCREEN

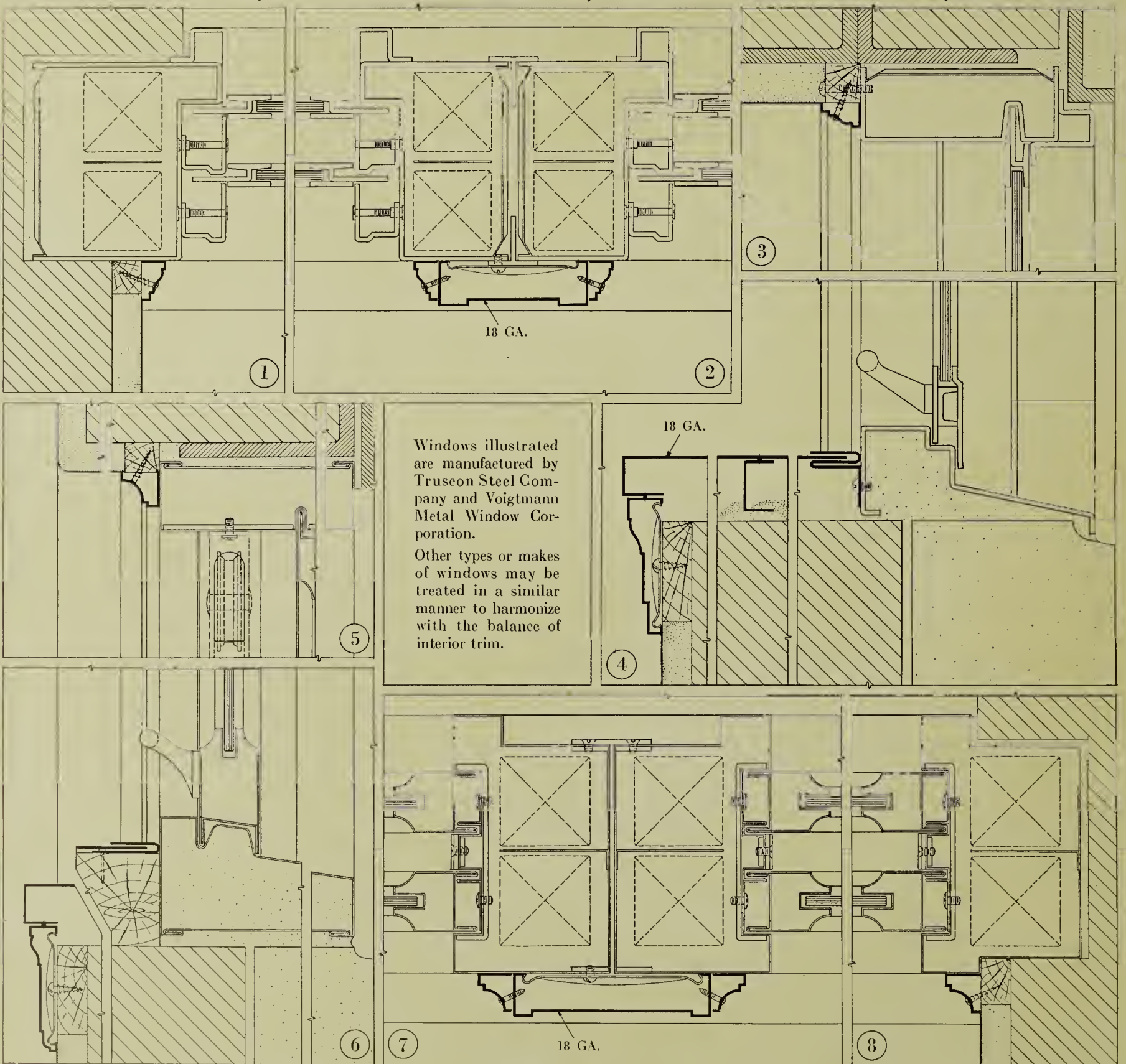


PLAN OF SCREEN

THEATRE SCREEN UNIT
SCALE 3 IN. = 1 FT.



ELEVATIONS OF WINDOW TRIM UNITS



WINDOW TRIM UNITS

SCALE 3 IN. = 1 FT.

SWING DOORS AND SASH



DOORS and sash may be had in any of the designs illustrated and in any width and height. Where required, designs other than shown can be readily supplied.

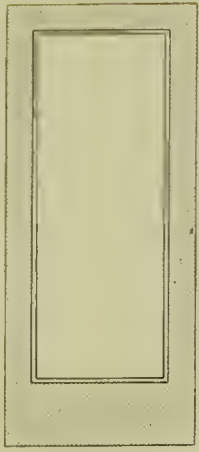
Types of doors and sash illustrated are of standard construction and thickness, with mouldings of stock profile. Any of these are in general adaptable to the designs shown.

Doors and sash of special construction and thickness, as well as mouldings of special profile, can be promptly furnished at an additional charge.

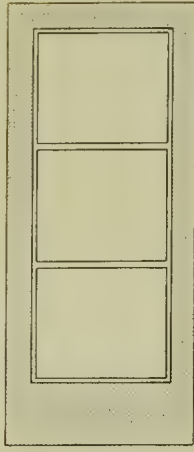
For details of louvres and grilles in doors D65 to D72, refer to pages 99 to 102.

Any of the arrangements for hardware illustrated on pages 119 to 123 are adaptable to the types of doors and sash shown.

Where Underwriters' labels are required, refer to "Fire Underwriters' Requirements," pages 182 to 186.



D 1



D 2



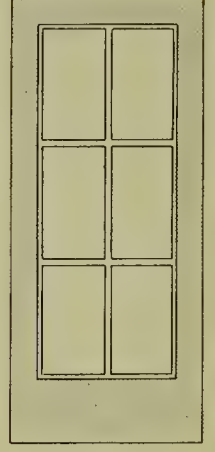
D 3



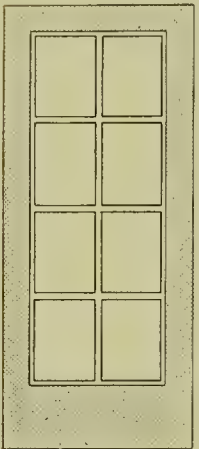
D 4



D 5



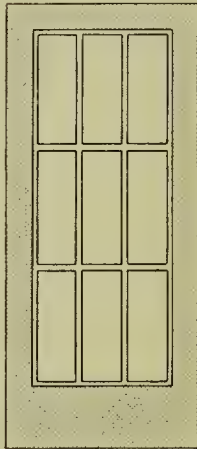
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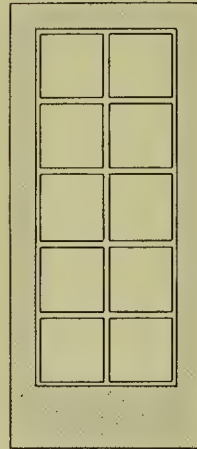
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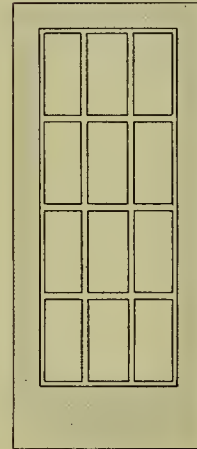
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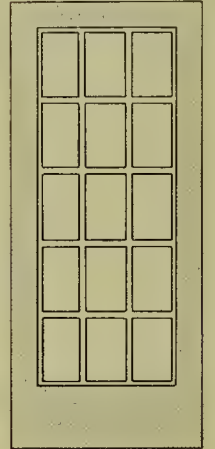
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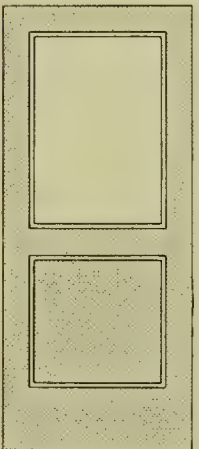
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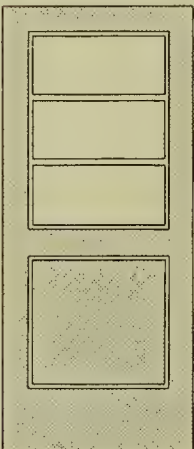
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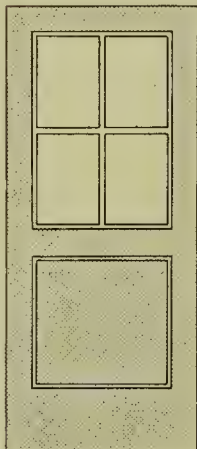
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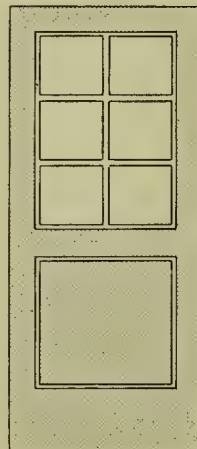
D 13



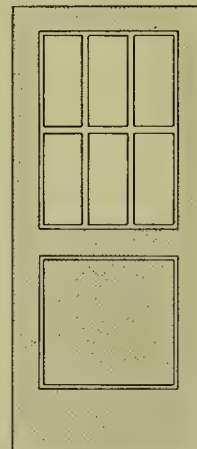
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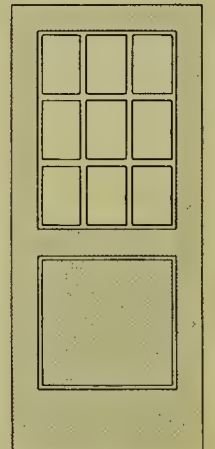
D 15



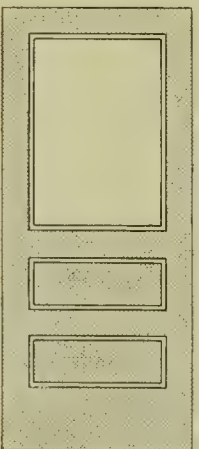
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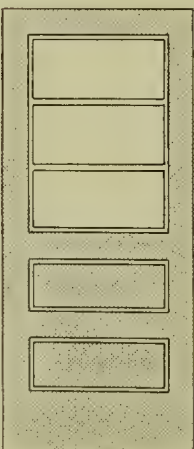
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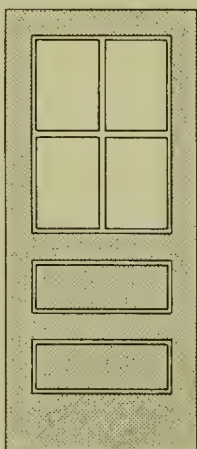
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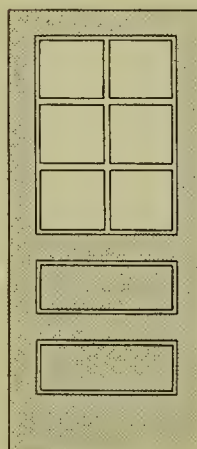
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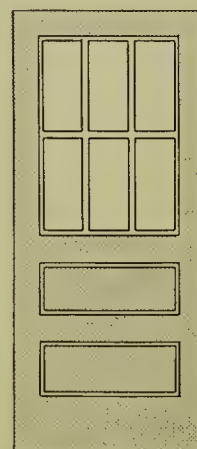
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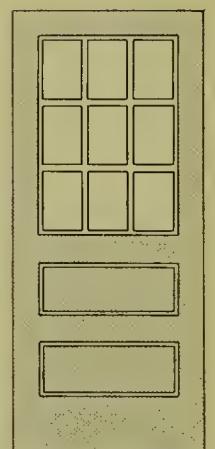
D 21



D 22



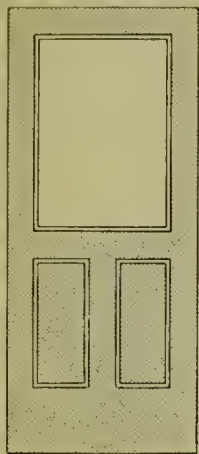
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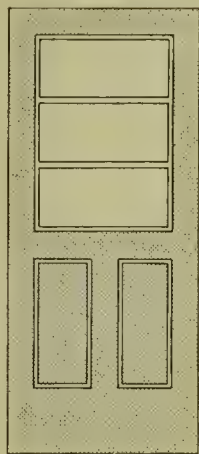
D 24

DESIGNS OF DOORS

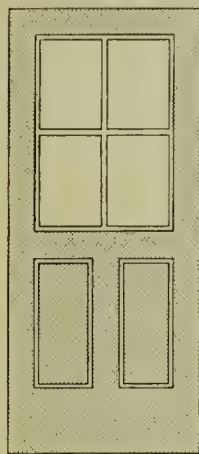
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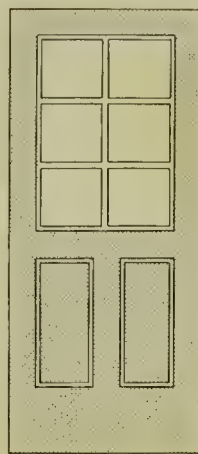
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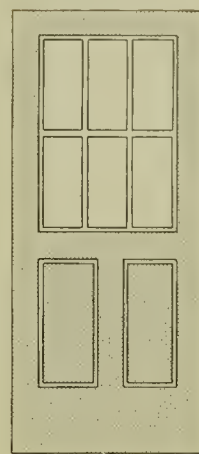
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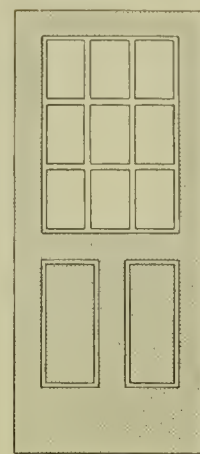
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D 28



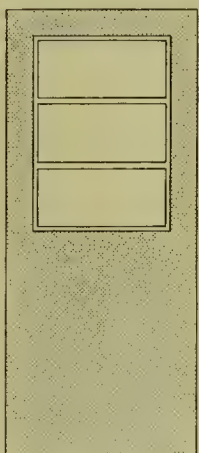
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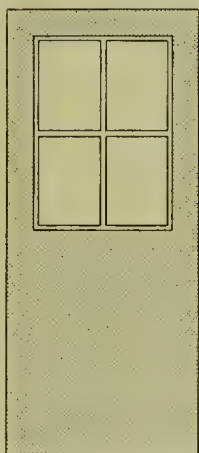
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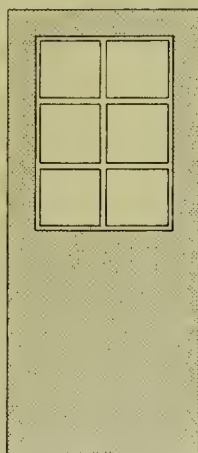
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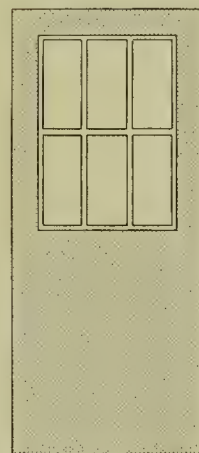
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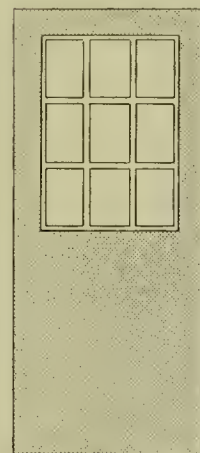
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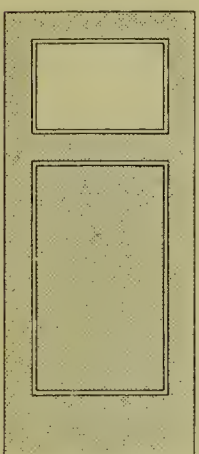
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D 35



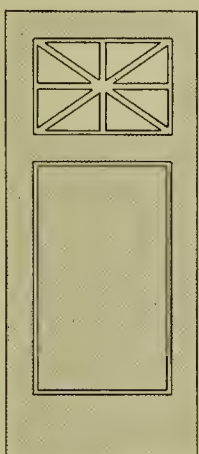
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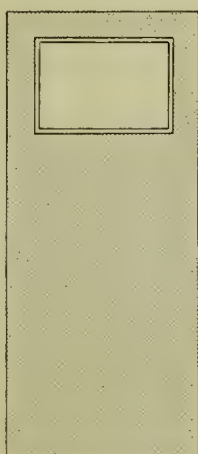
D 37



D 38



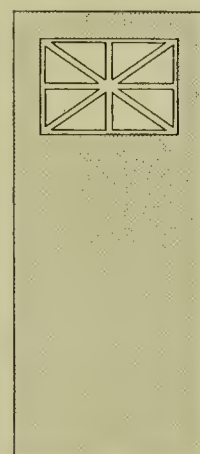
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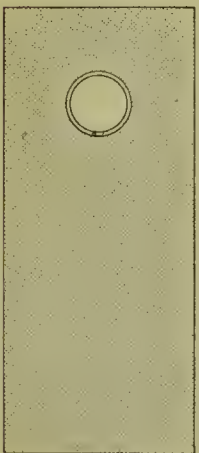
D 40



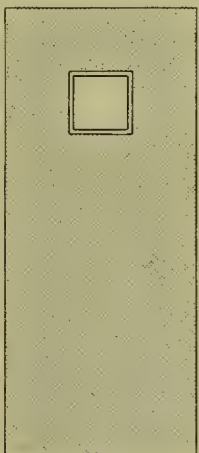
D 41



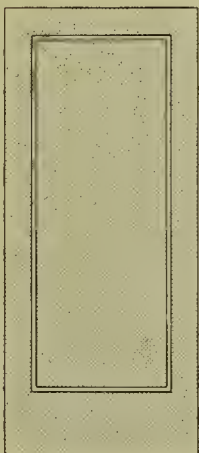
D 42



D 43



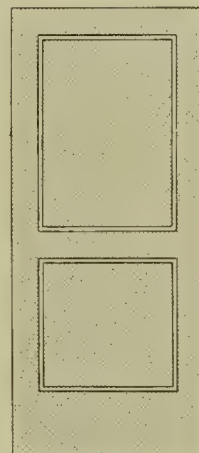
D 44



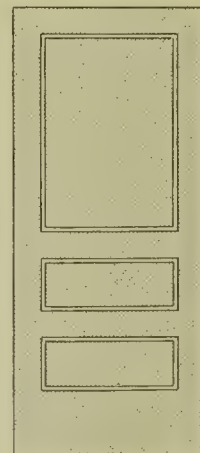
D 45



D 46



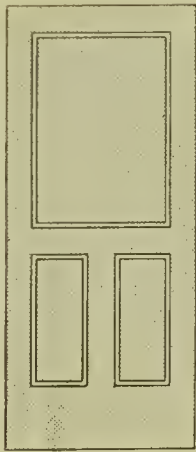
D 47



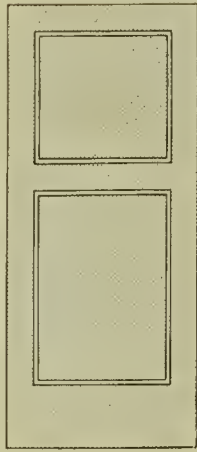
D 48

DESIGNS OF DOORS

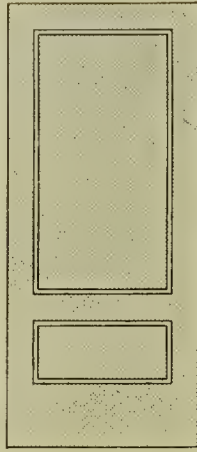
SCALE $\frac{1}{4}$ IN. = 1 FT.



D 49



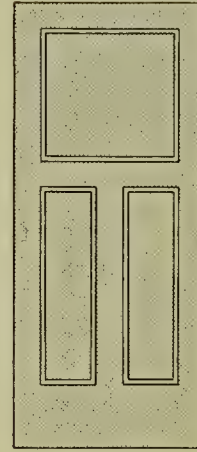
D 50



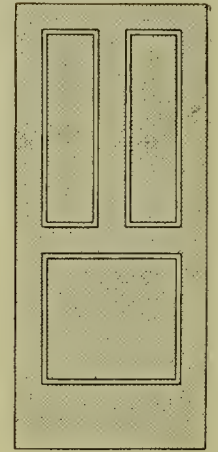
D 51



D 52



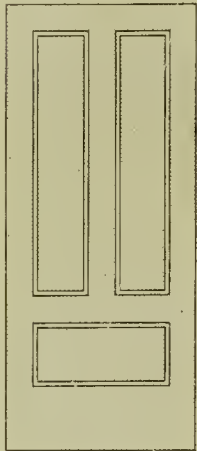
D 53



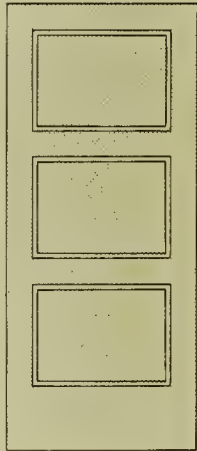
D 54



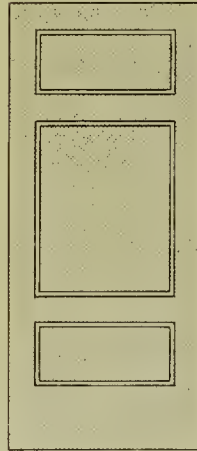
D 55



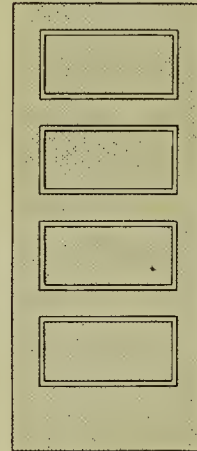
D 56



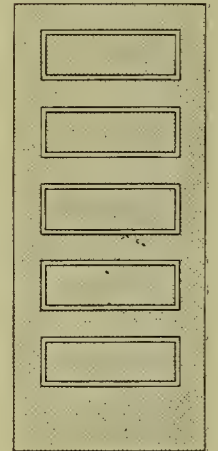
D 57



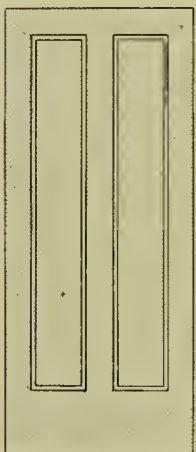
D 58



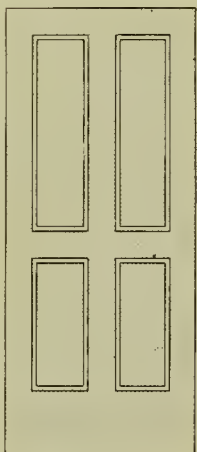
D 59



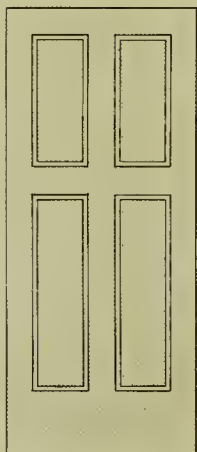
D 60



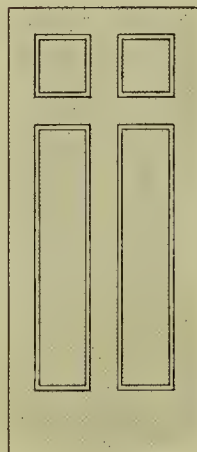
D 61



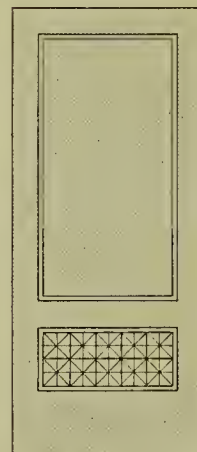
D 62



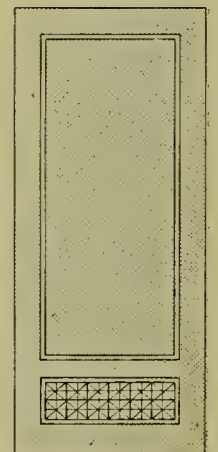
D 63



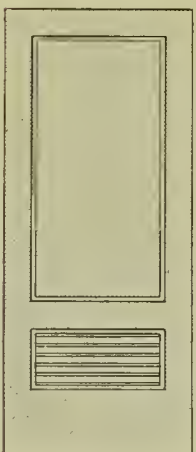
D 64



D 65



D 66



D 67



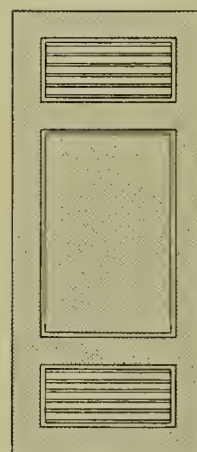
D 68



D 69



D 70



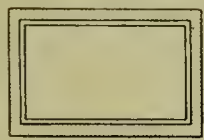
D 71



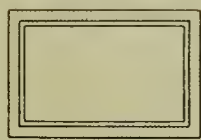
D 72

DESIGNS OF DOORS

SCALE $\frac{1}{4}$ IN. = 1 FT.



S 1



S 2



S 3



S 4



S 5



S 6



S 7



S 8



S 9



S 10



S 11



S 12



S 13



S 14



S 15



S 16



S 17



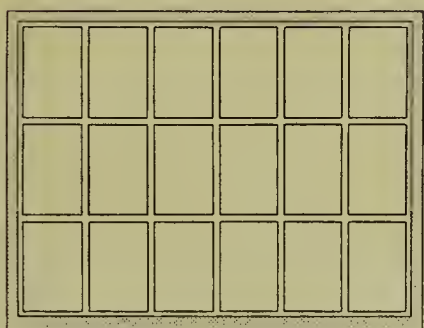
S 18



S 19



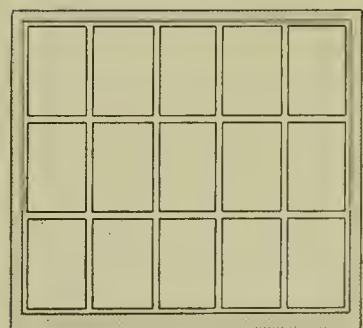
S 20



S 21



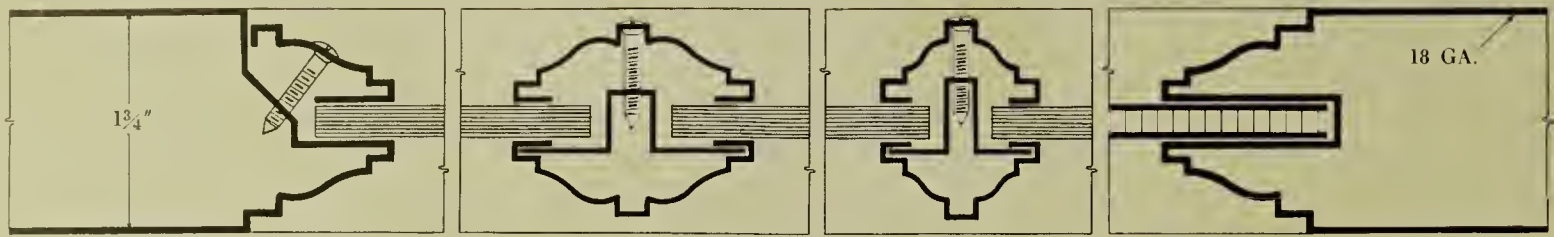
S 22



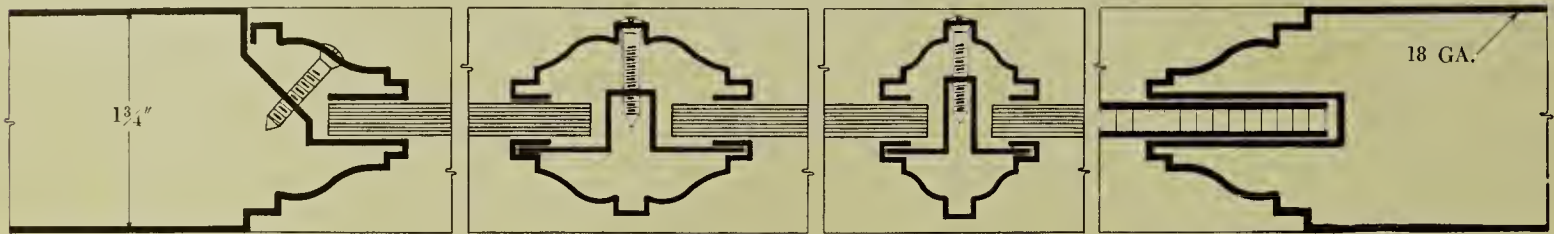
S 23

DESIGNS OF SASH

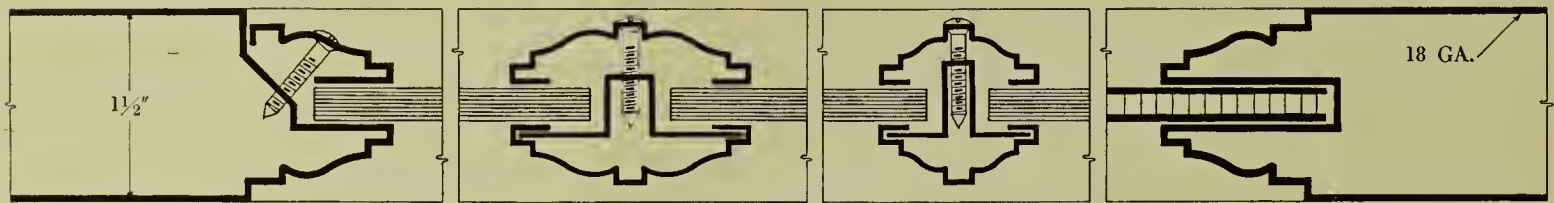
SCALE $\frac{1}{4}$ IN. = 1 FT.



TYPE 100



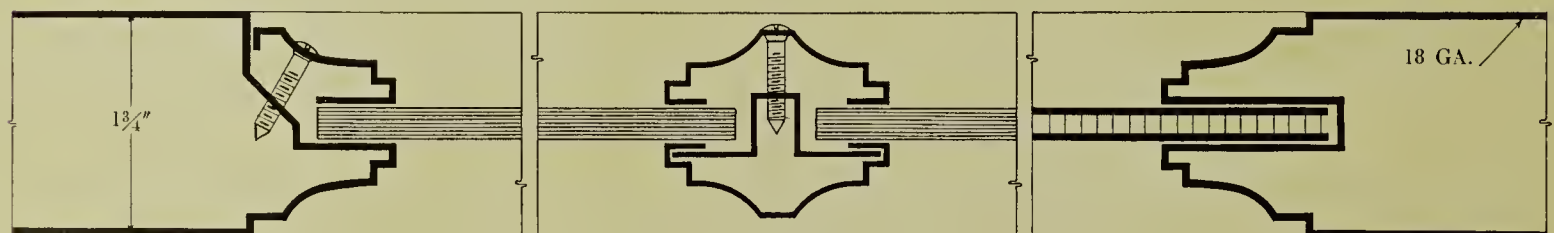
TYPE 101



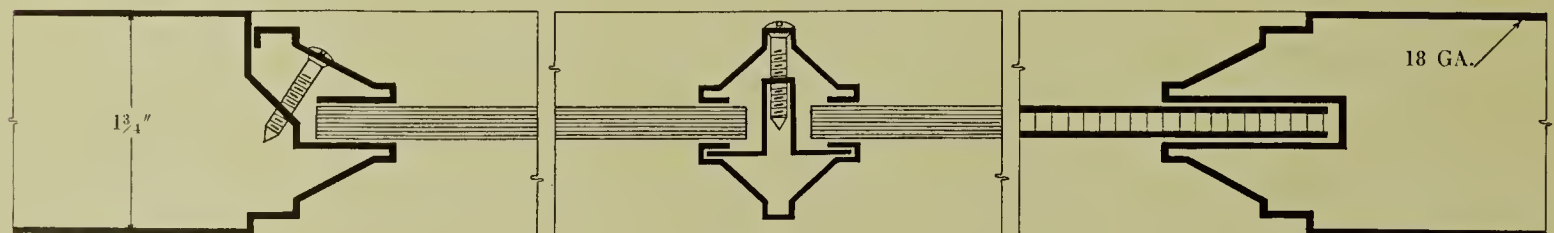
TYPE 102



TYPE 103

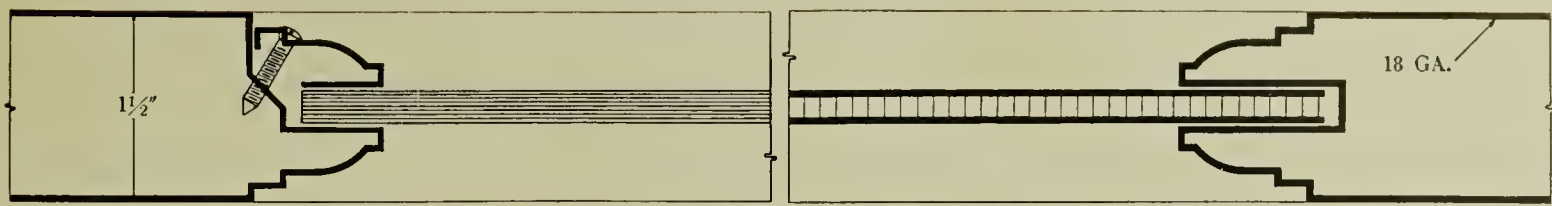


TYPE 104

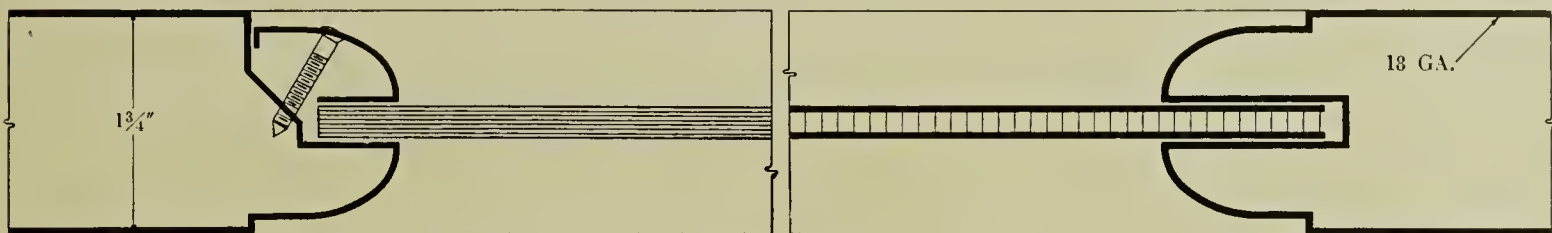


TYPE 105

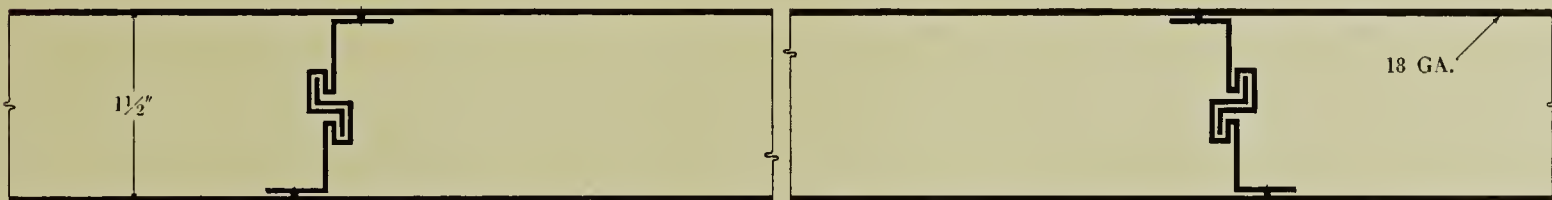
TYPES OF DOORS AND SASH
ONE-HALF SIZE



TYPE 106



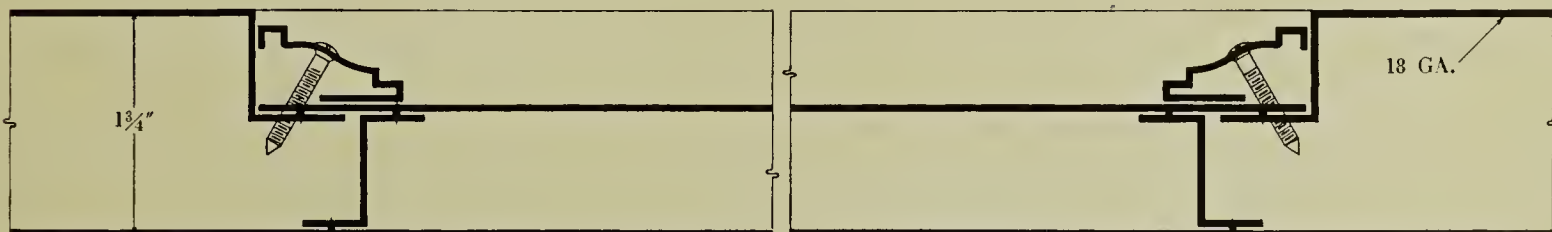
TYPE 107



TYPE 108



TYPE 109



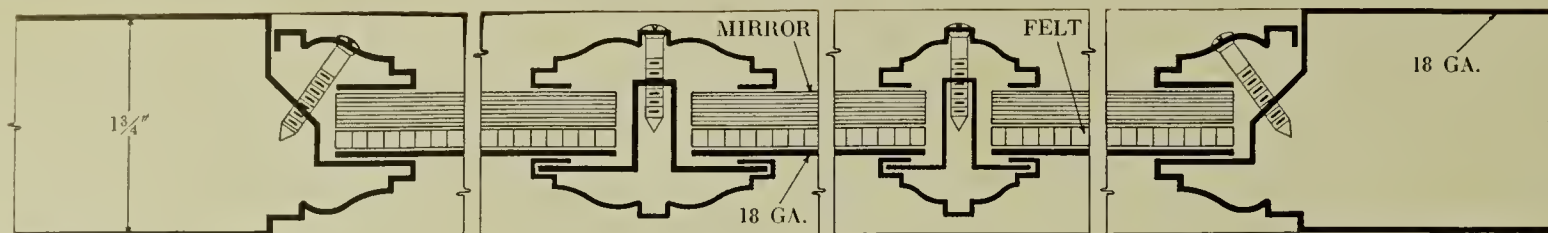
TYPE 110



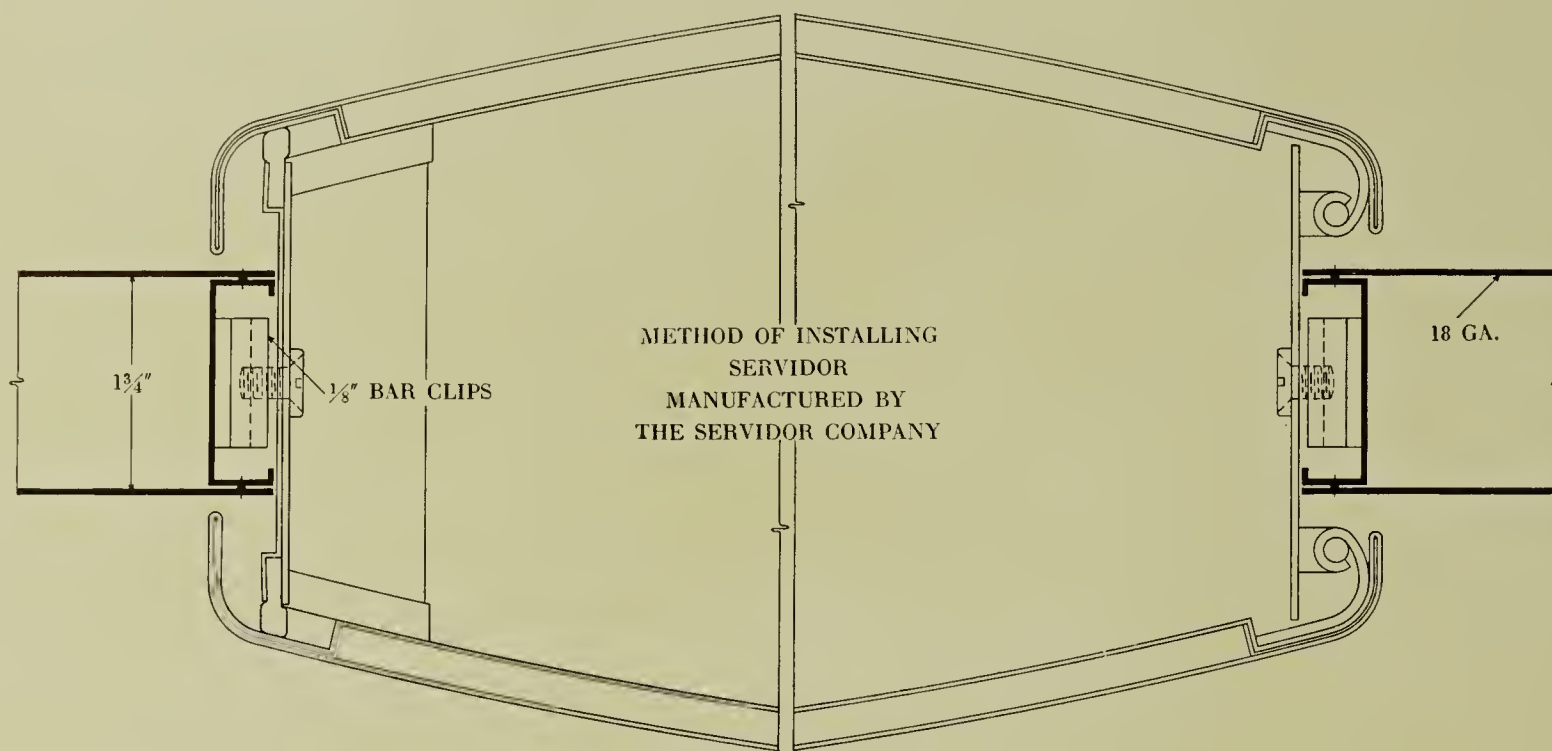
TYPE 111

Any Standard Moulding May Be Used with Types 110 and 111

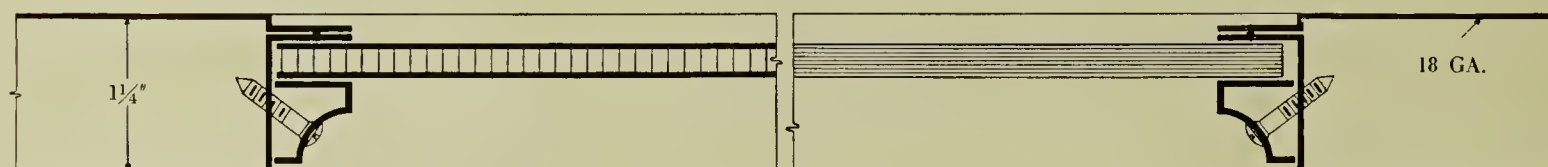
TYPES OF DOORS AND SASH ONE-HALF SIZE



TYPE 112



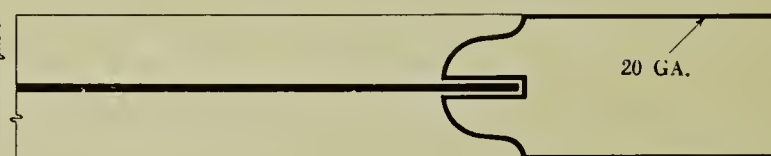
TYPE 113



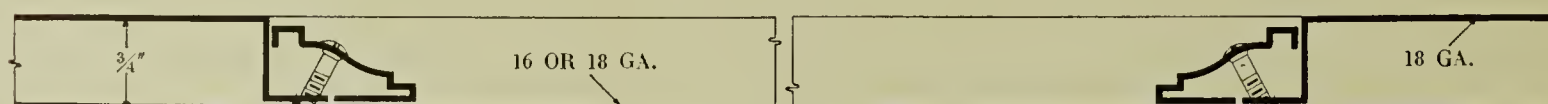
TYPE 114



TYPE 115



TYPE 116



TYPE 117

Any Standard Moulding May Be Used with Types 112, 114 and 117

TYPES OF DOORS AND SASH ONE-HALF SIZE

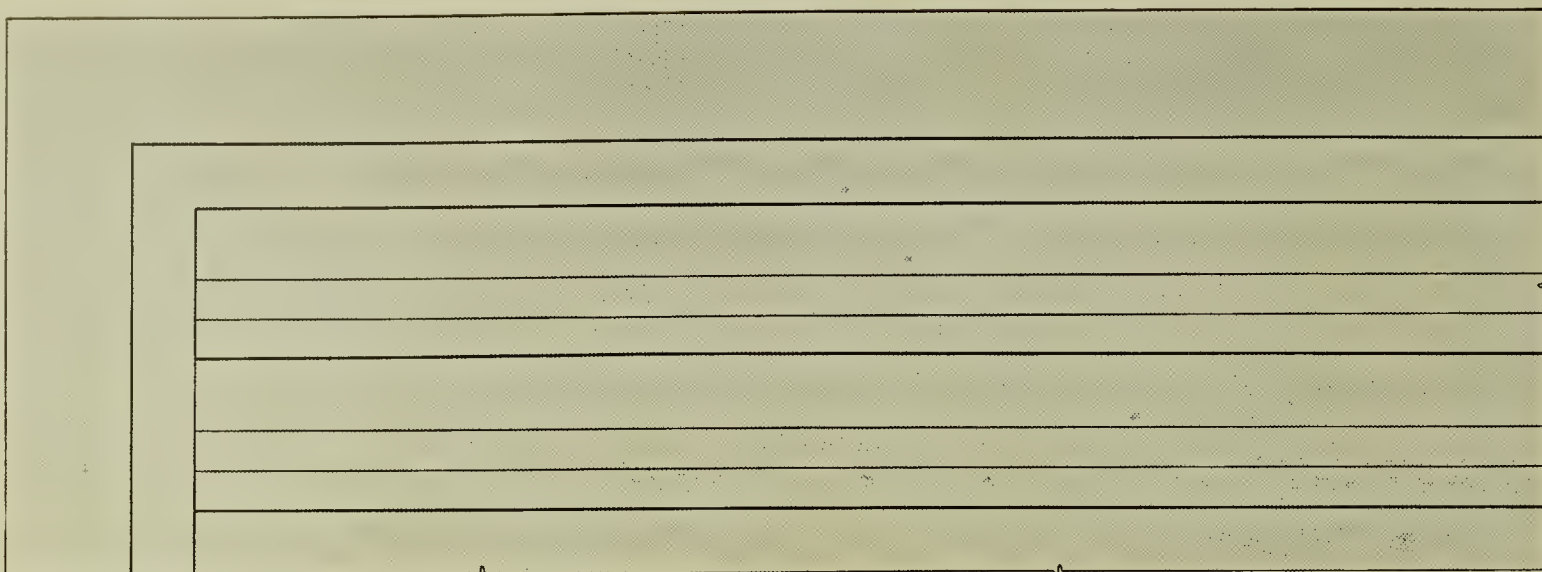
LOUVRES AND GRILLES



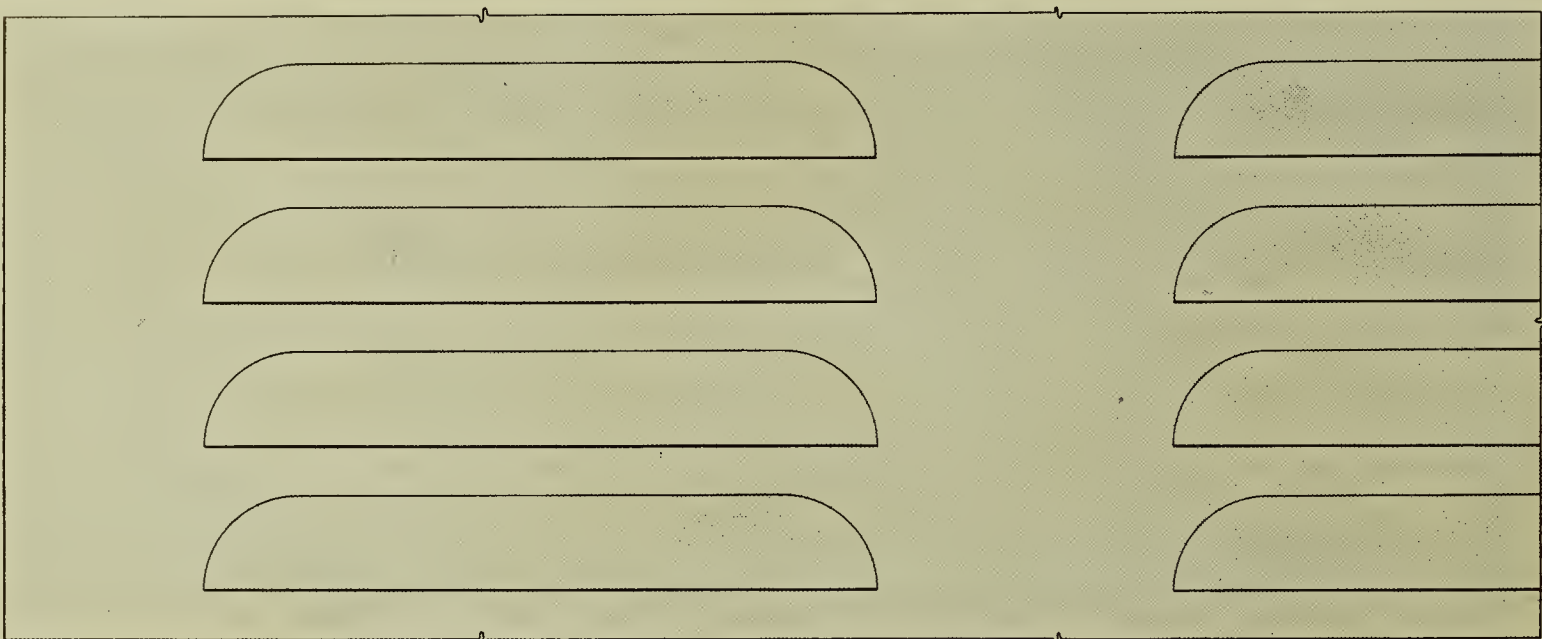
LOUVRES and grilles illustrated are standard as to design and construction but can be had in any width and height.

These are adaptable to doors D65 to D72 and can be supplied with mouldings in any profile shown among the types of doors and sash in the preceding section.

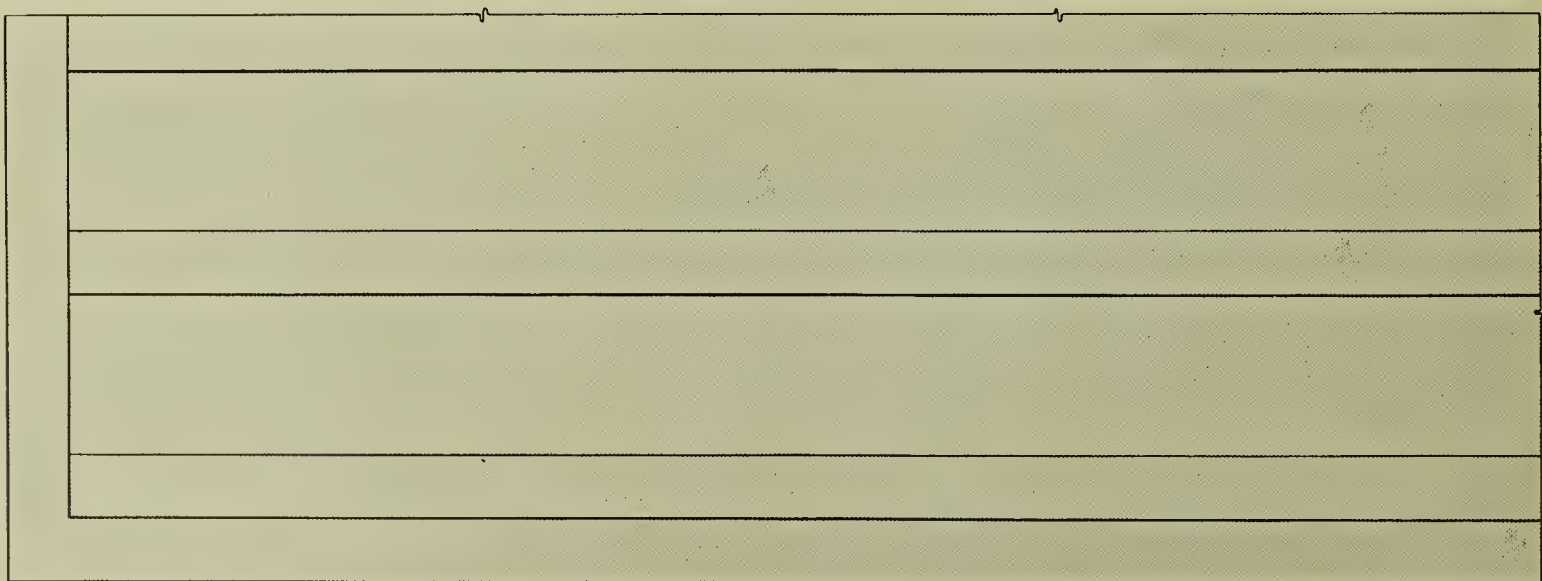
Where required, grilles of special design can be readily supplied.



L 1

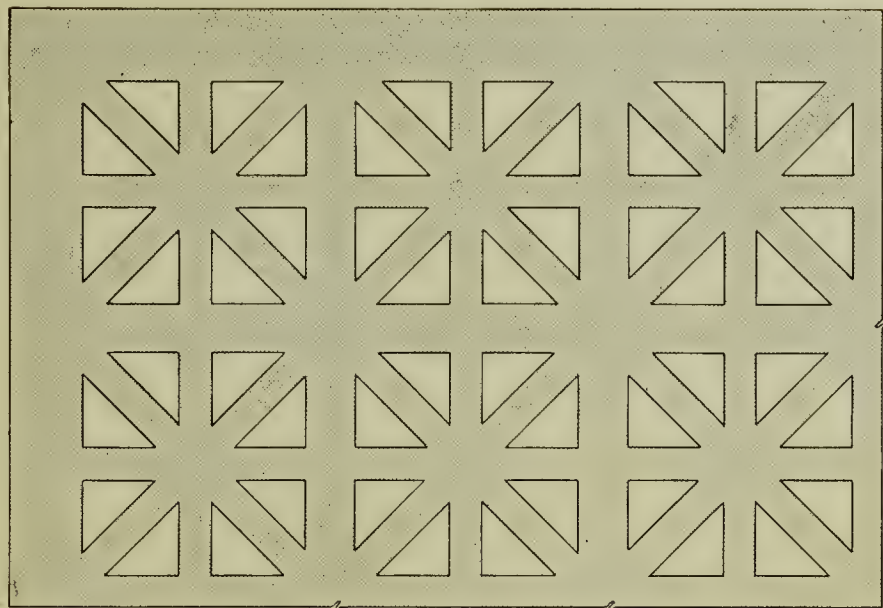


L 2

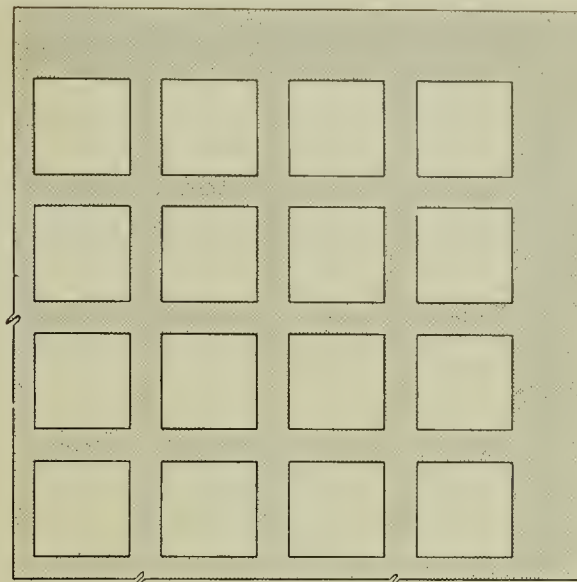


L 3

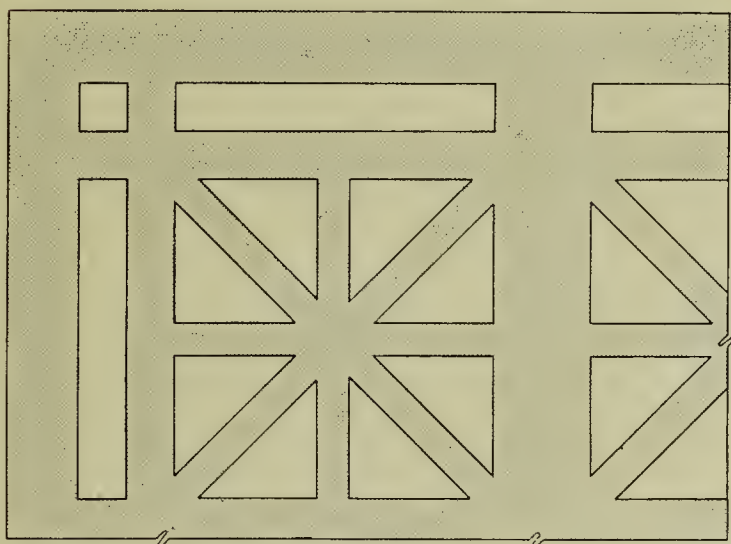
DESIGNS OF LOUVRES
ONE-HALF SIZE



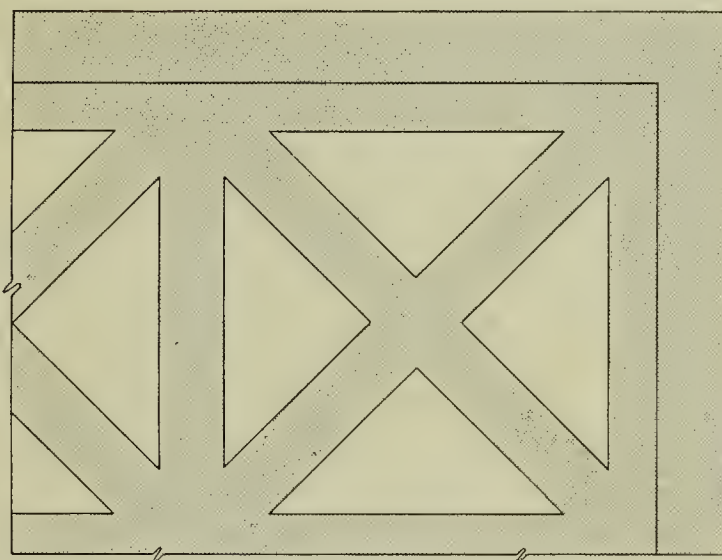
G 1



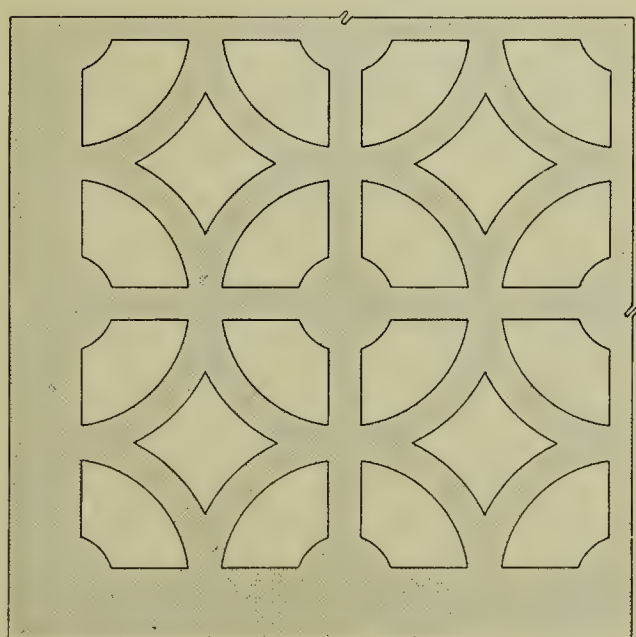
G 2



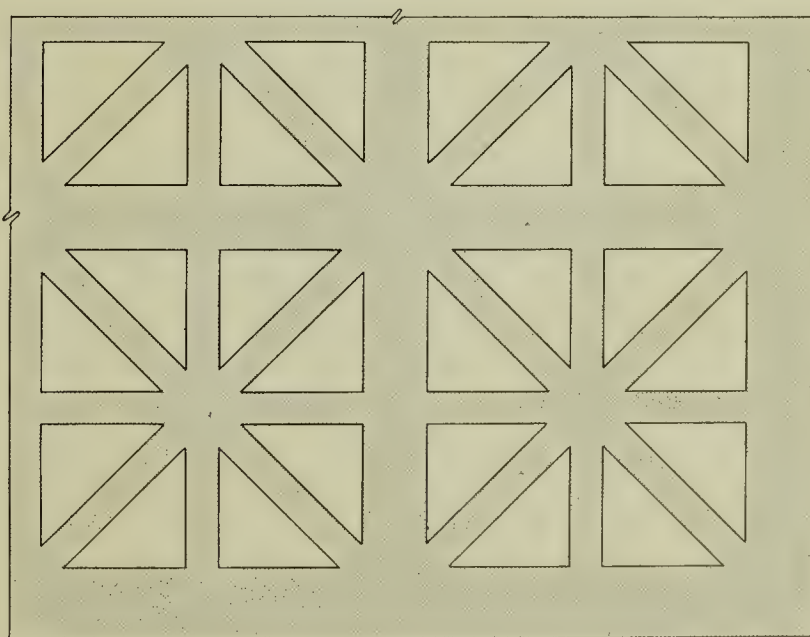
G 3



G 4

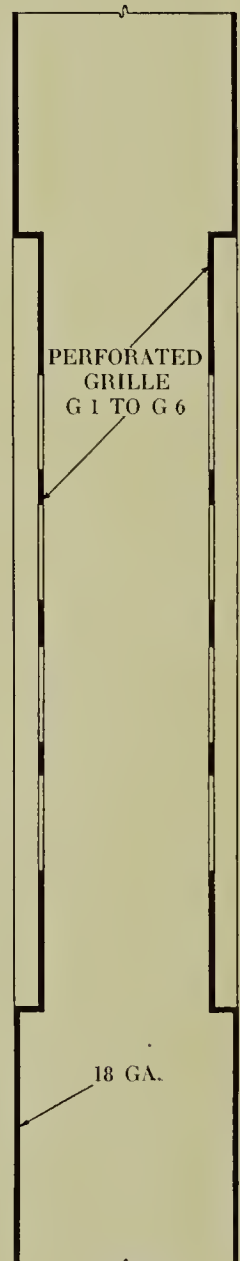
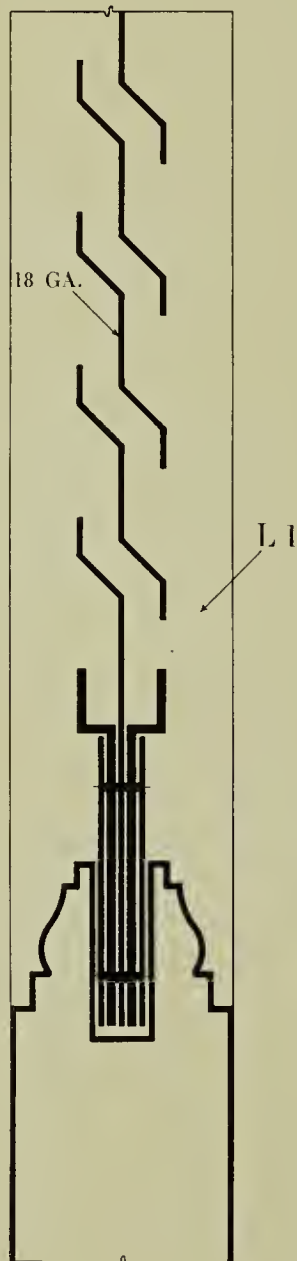
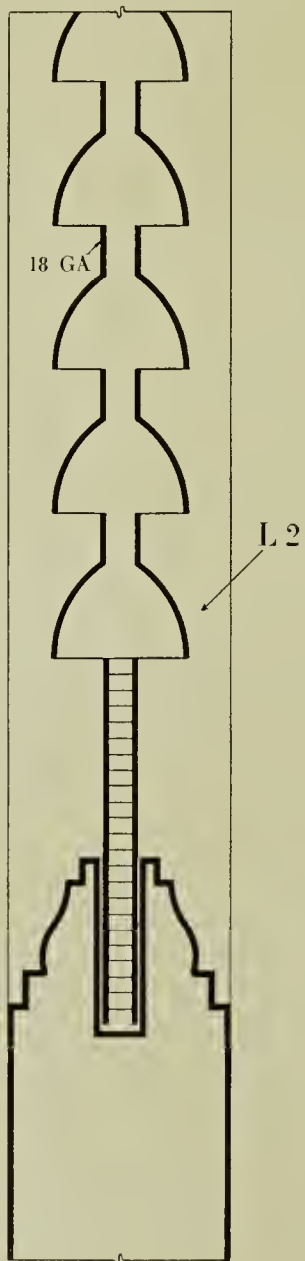
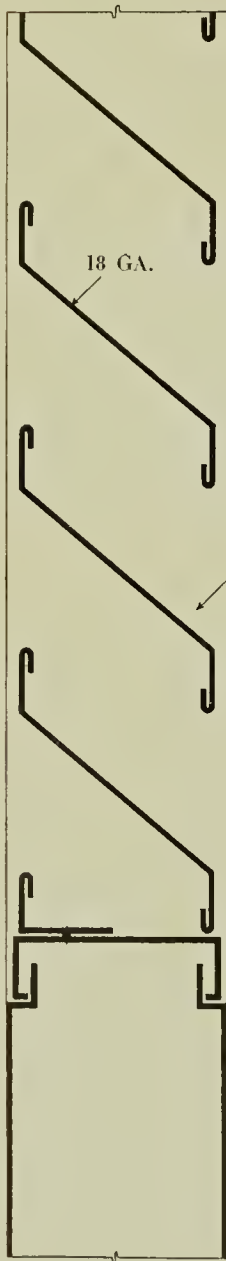
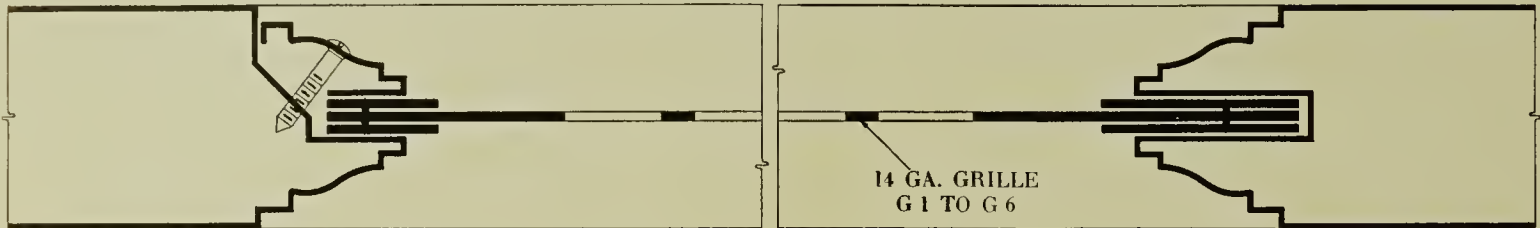
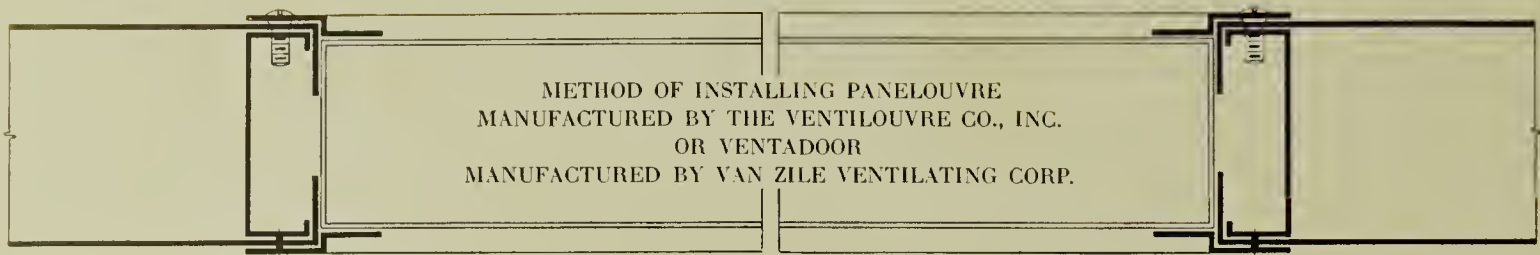


G 5



G 6

DESIGNS OF GRILLES
ONE-HALF SIZE



LOUVRE AND GRILLE DETAILS
ONE-HALF SIZE

FRAMES, MULLIONS AND TRANSOM BARS

[*Formed Type*]

FRAMES, mullions and transom bars shown can be made to suit any wall, door or sash thickness. These can also be had in other profiles and to suit special conditions.

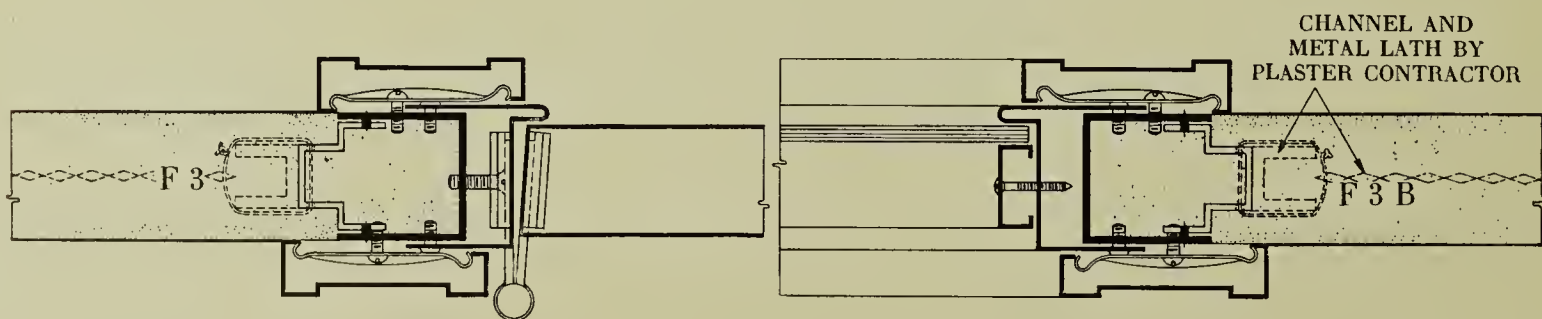
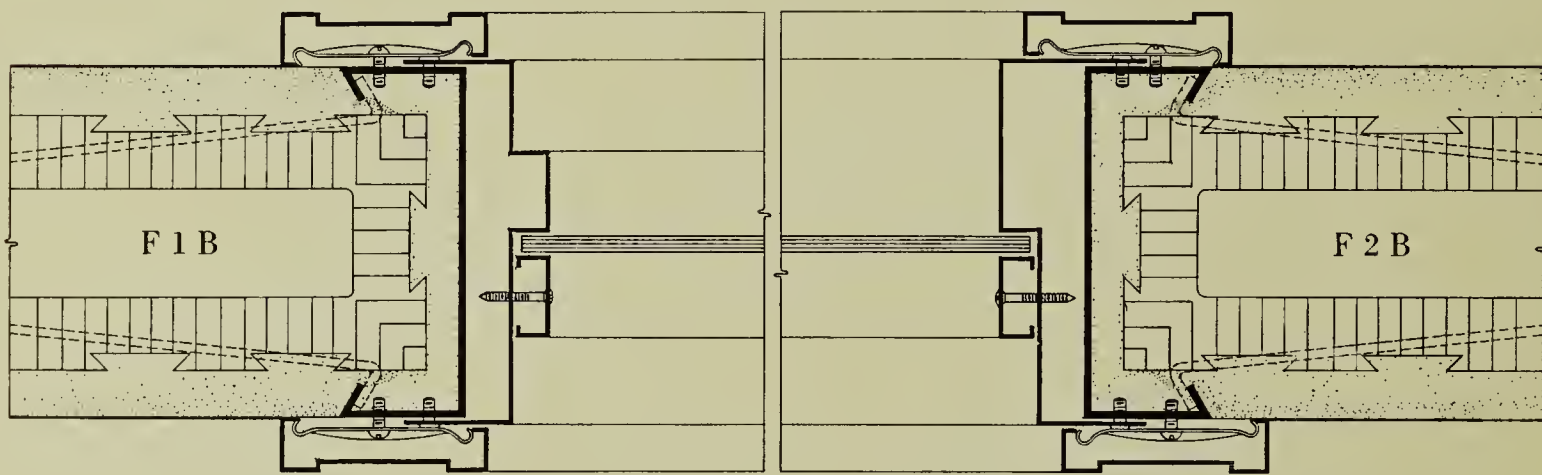
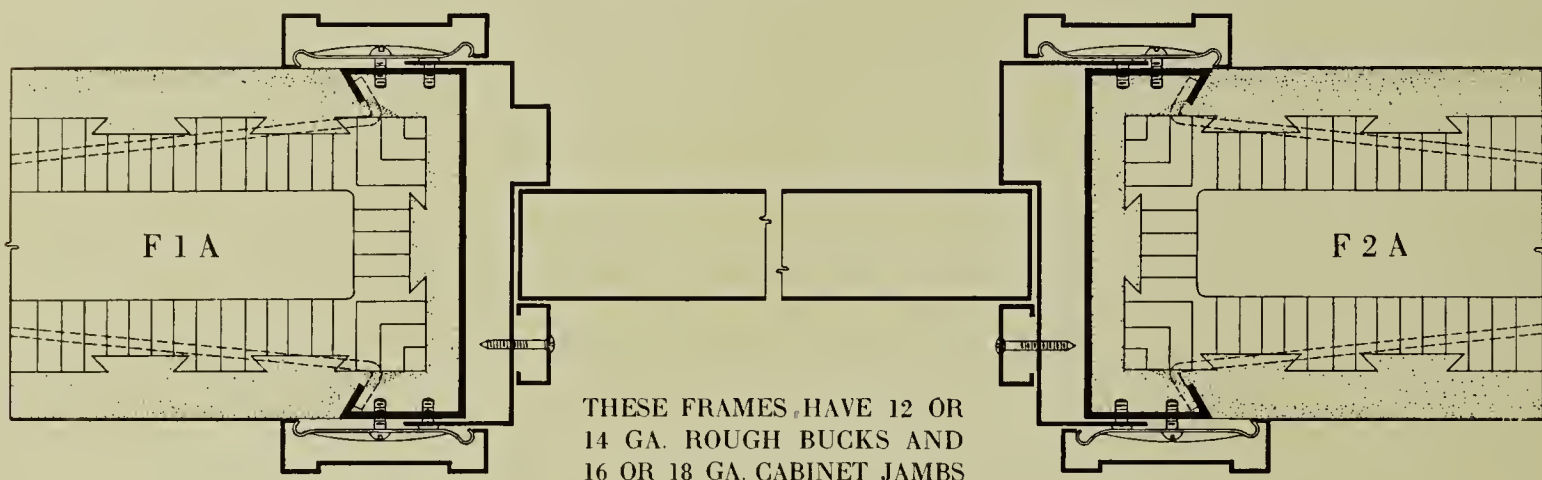
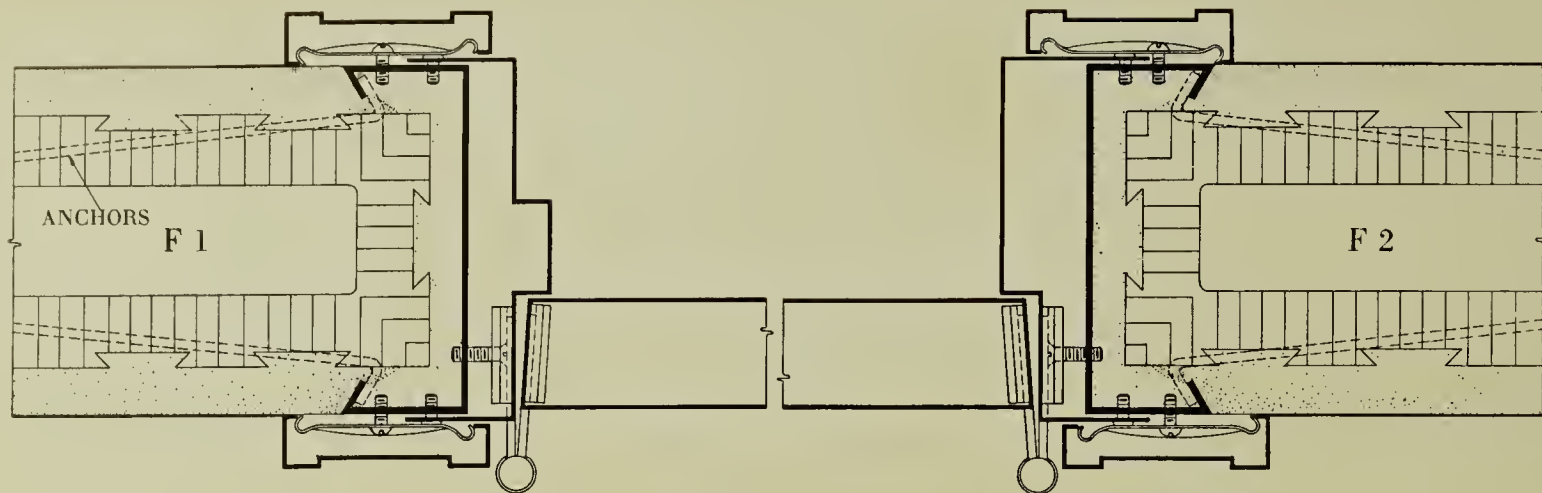
Altho plain stops, casings and scribe mouldings of similar profile are illustrated, any of the stops, casings and scribe mouldings shown on pages 124 to 128 can be used.

While frames, mullions and transom bars are shown with doors and sash hung on butt hinges, any of the arrangements for hardware indicated on pages 119 to 123 are adaptable.

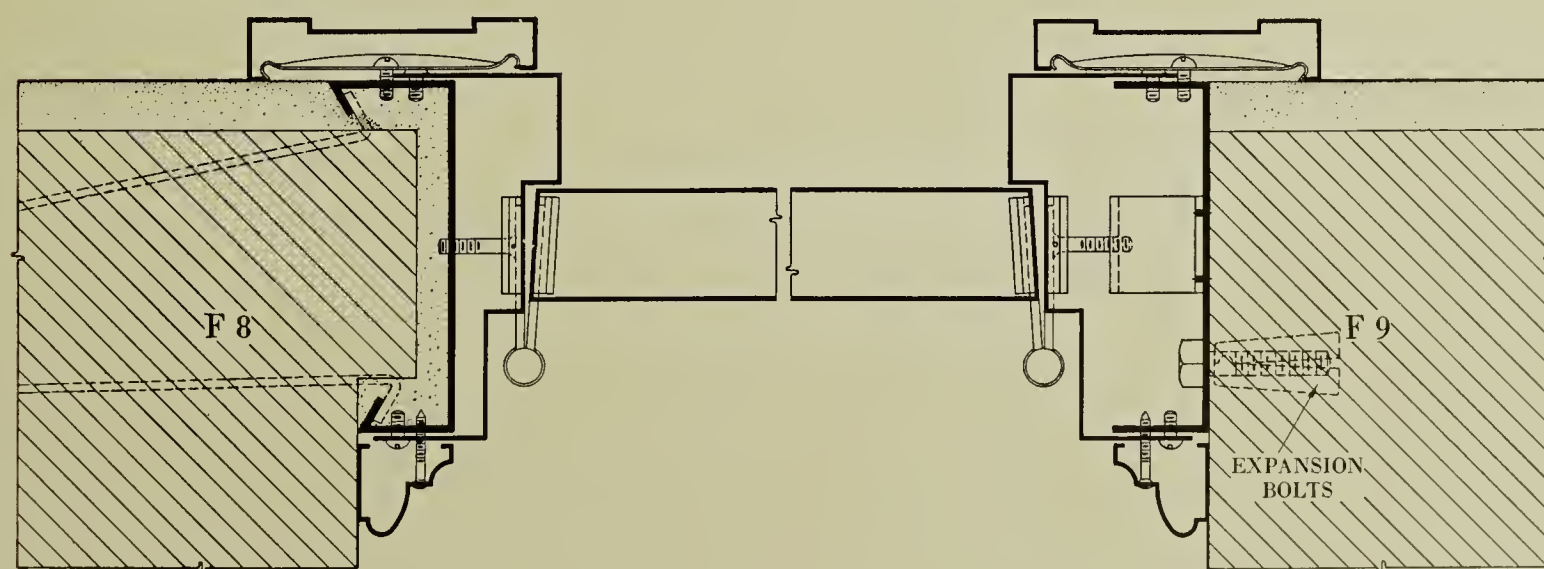
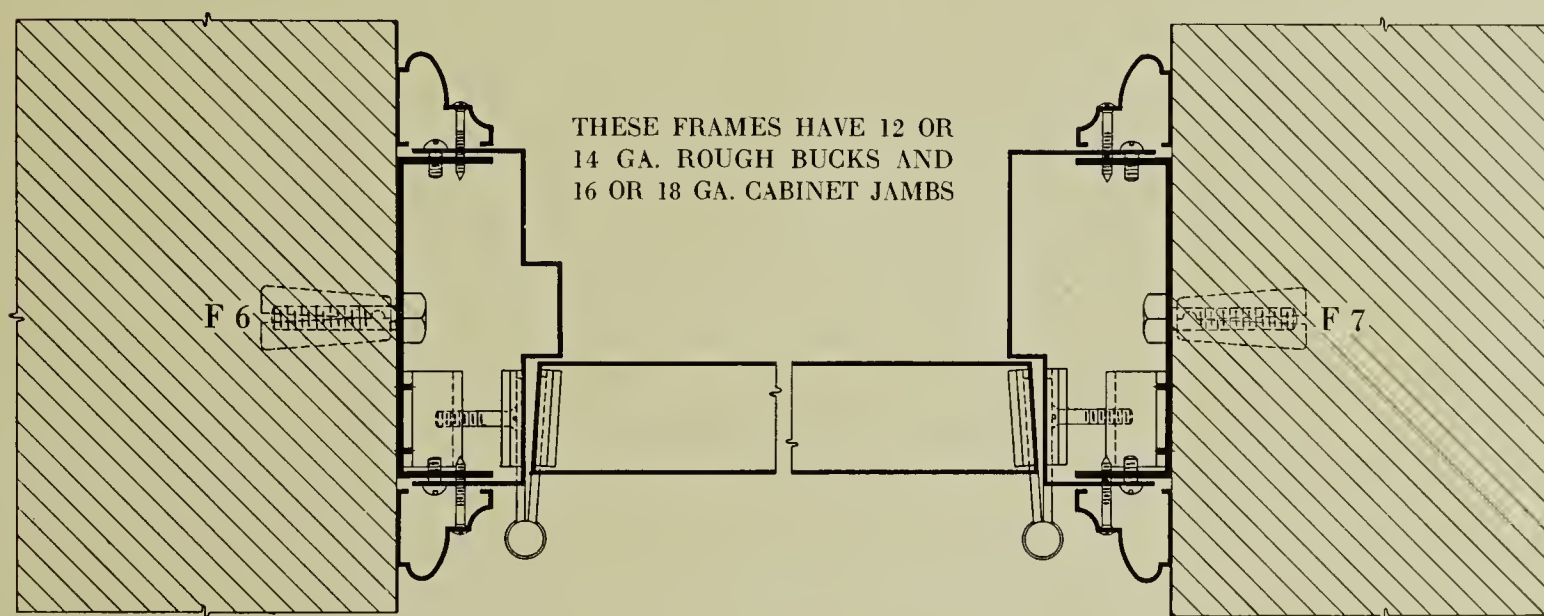
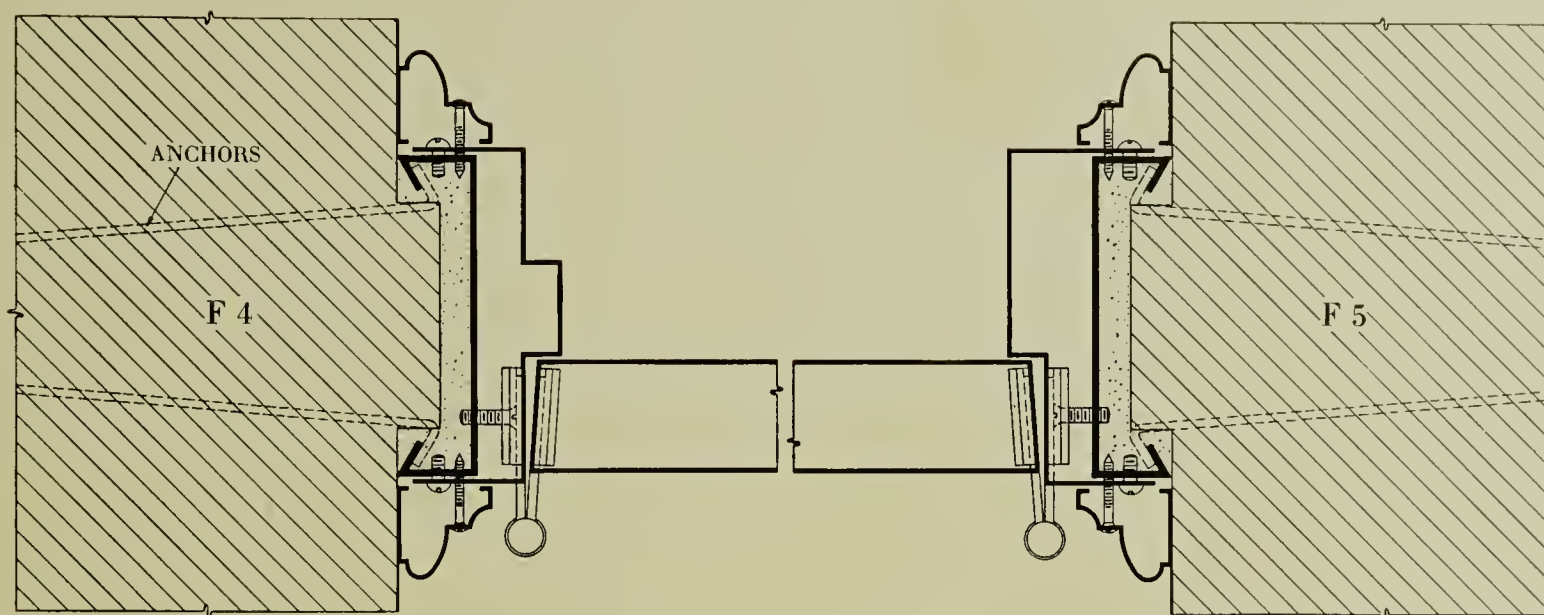
Types F4 to F23 can be arranged for stationary doors and sash or glass panels similar to type F1A. Types F16 to F23 are also adaptable for use in brick walls and can be furnished with single rabbet similar to Type F2.

Plinths can be supplied where desired.

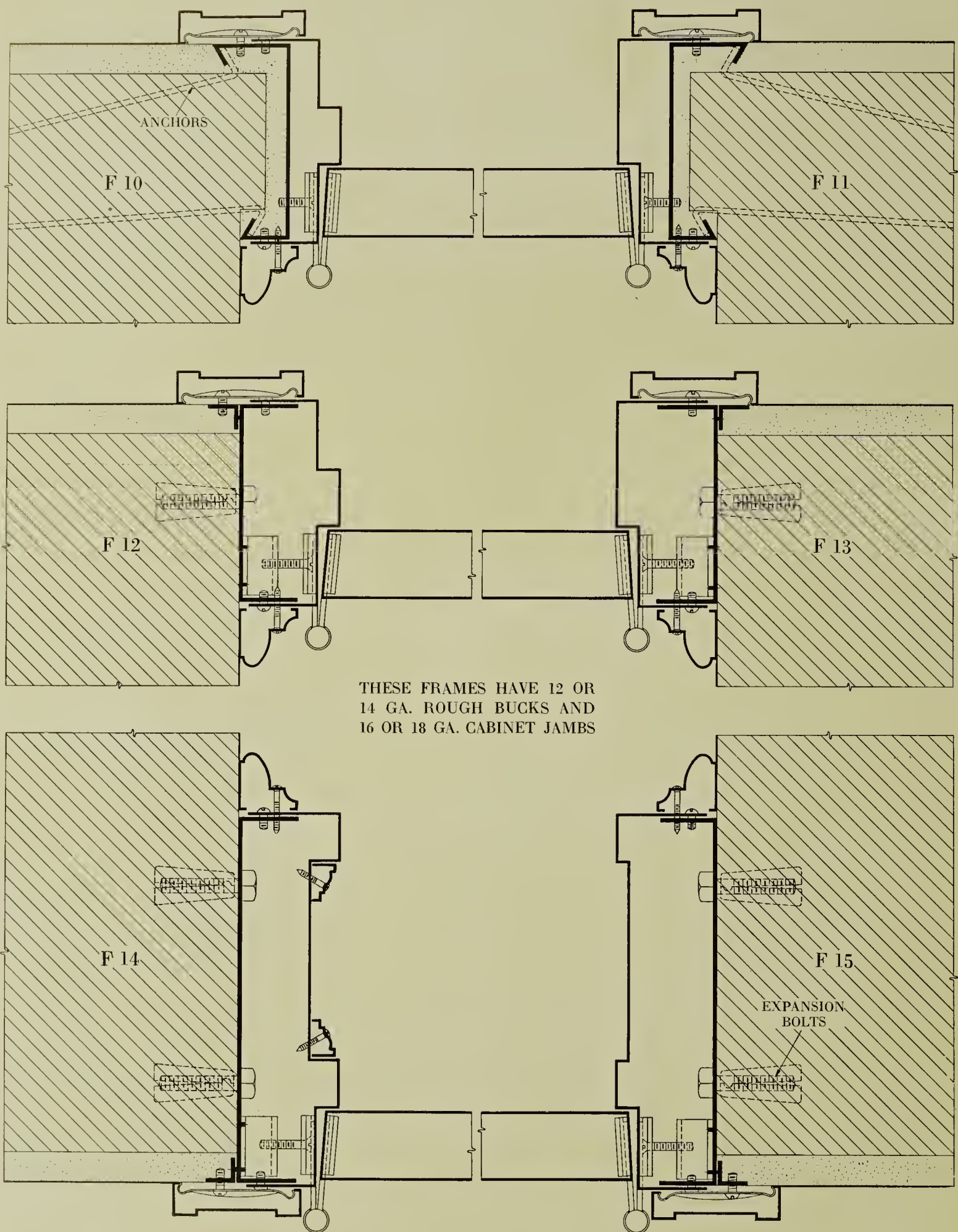
Where Underwriters' labels are required, refer to "Fire Underwriters' Requirements," pages 182 to 186.



ROUGH BUCK, CABINET JAMB AND CASING TYPE FRAMES
SCALE 3 IN. = 1 FT.

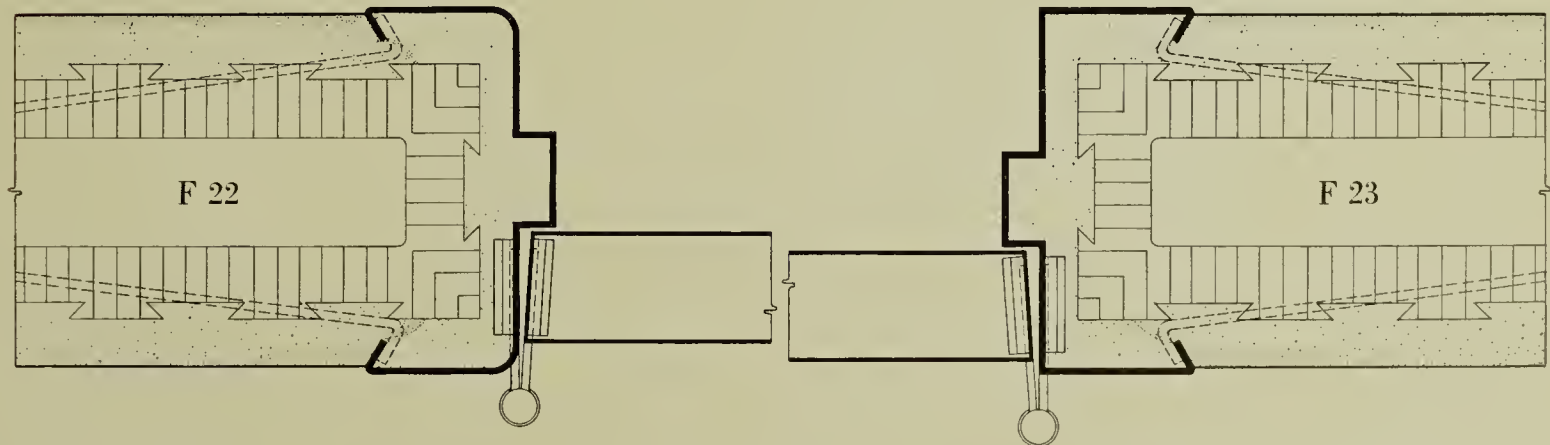
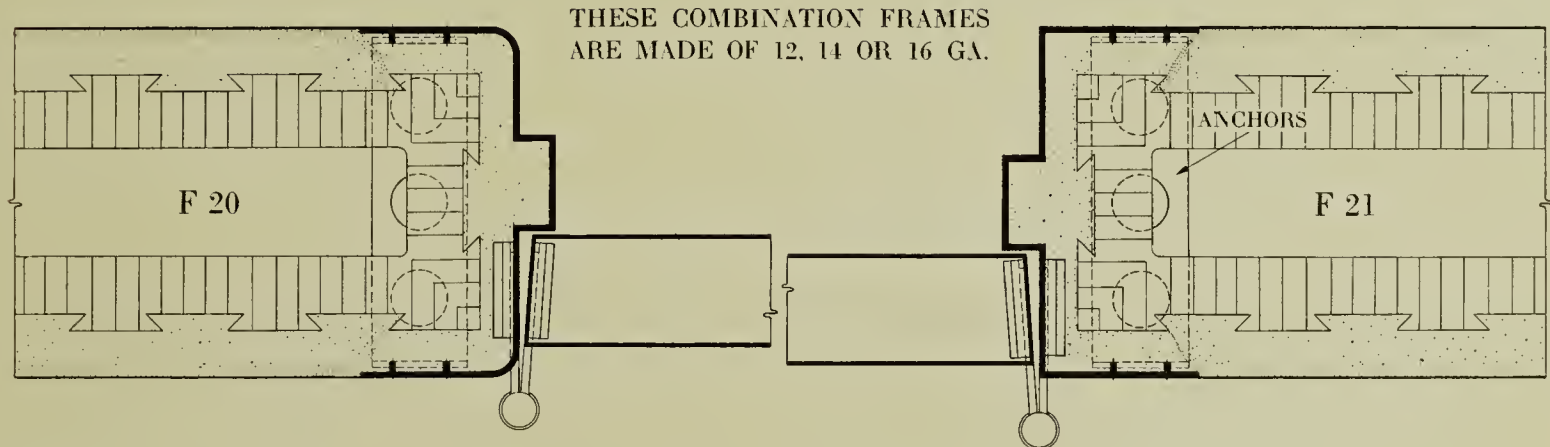
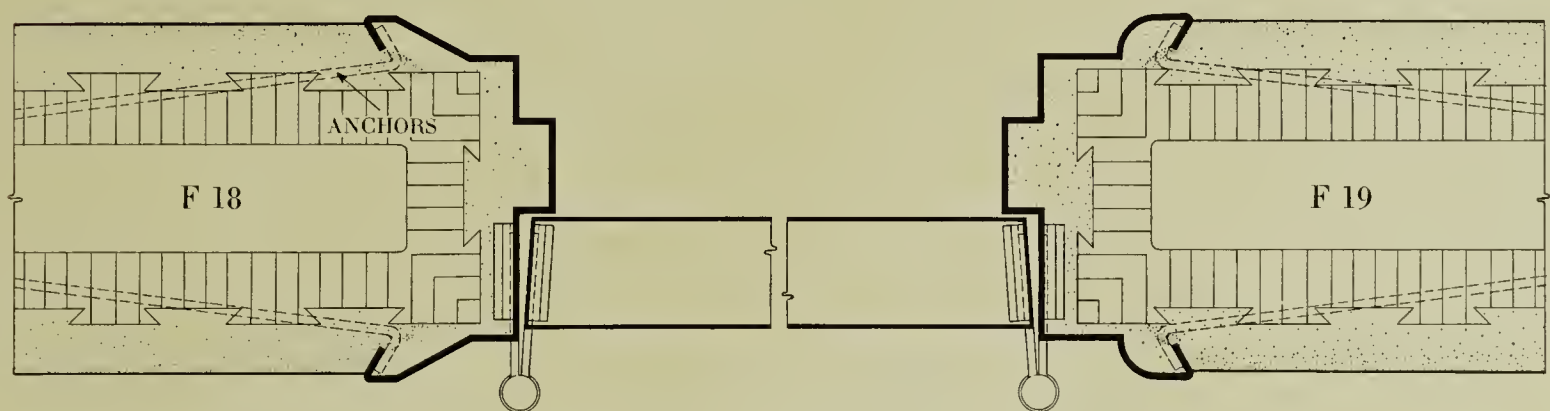
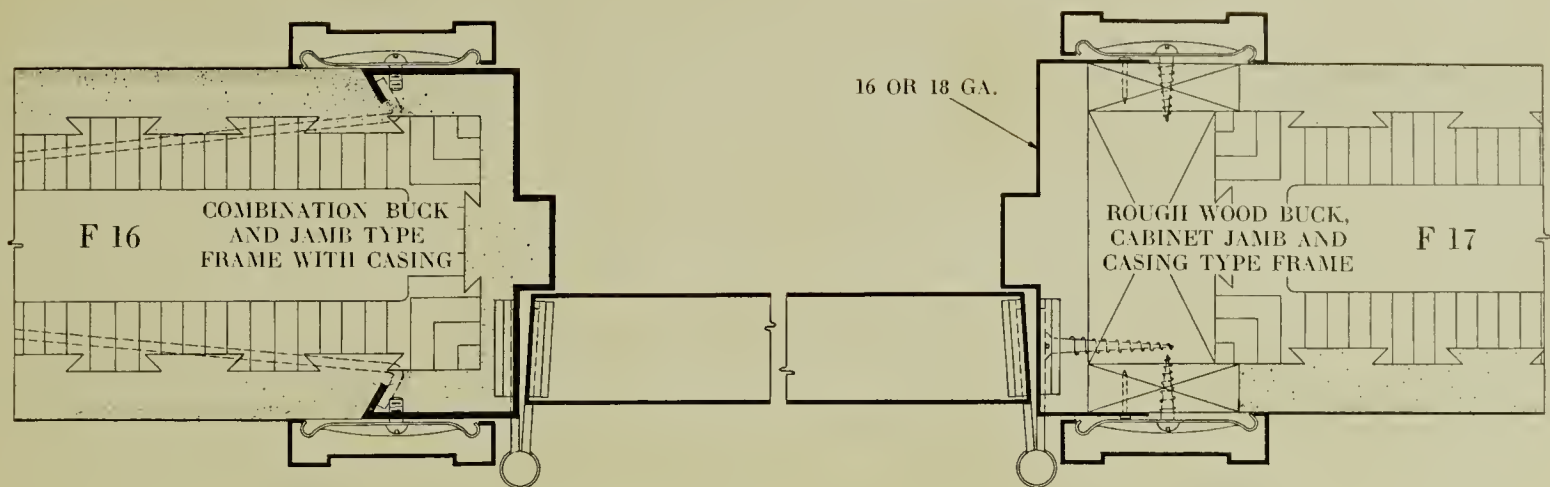


ROUGH BUCK, CABINET JAMB AND TRIM TYPE FRAMES
SCALE 3 IN. = 1 FT.



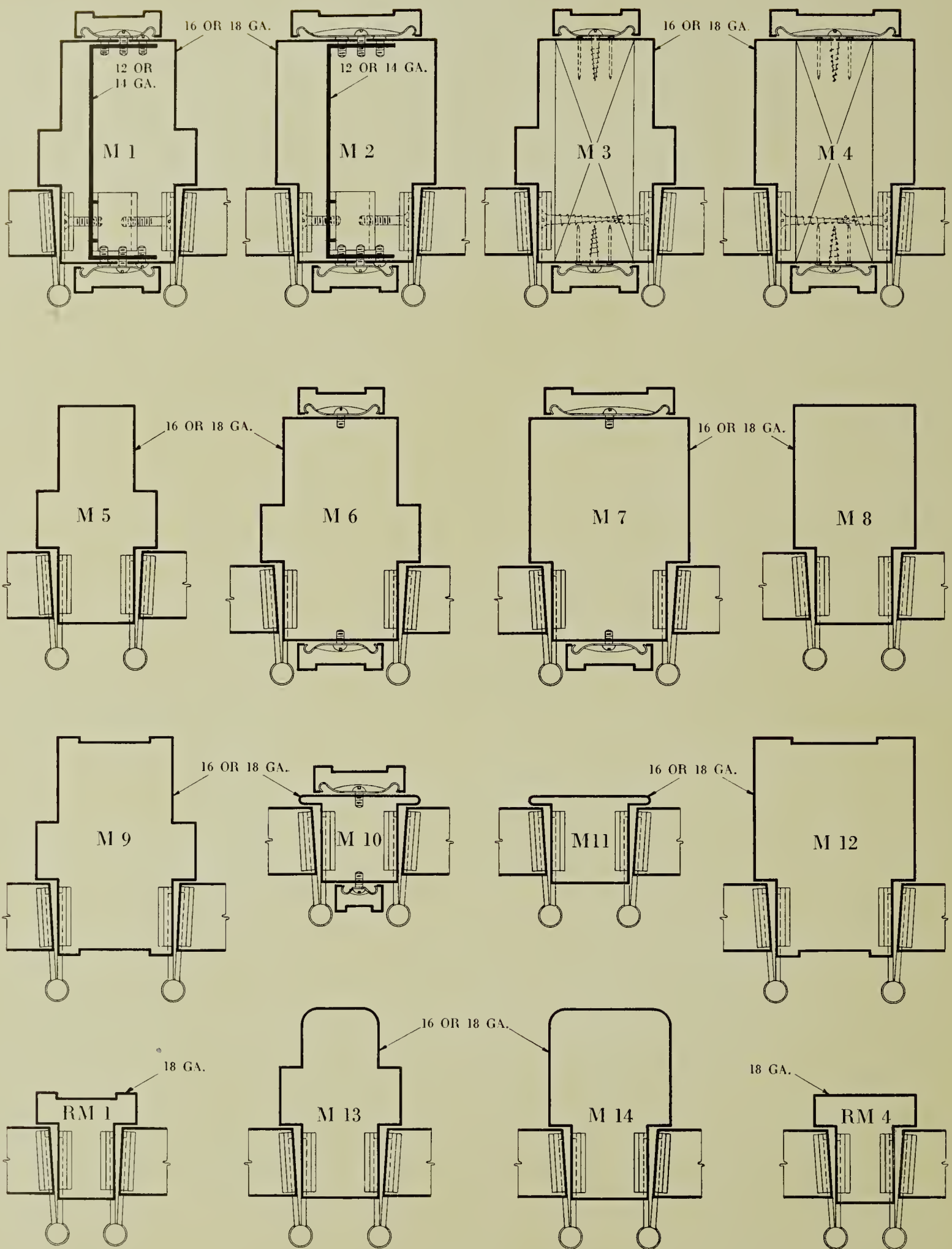
ROUGH BUCK, CABINET JAMB AND TRIM TYPE FRAMES

SCALE 3 IN. = 1 FT.



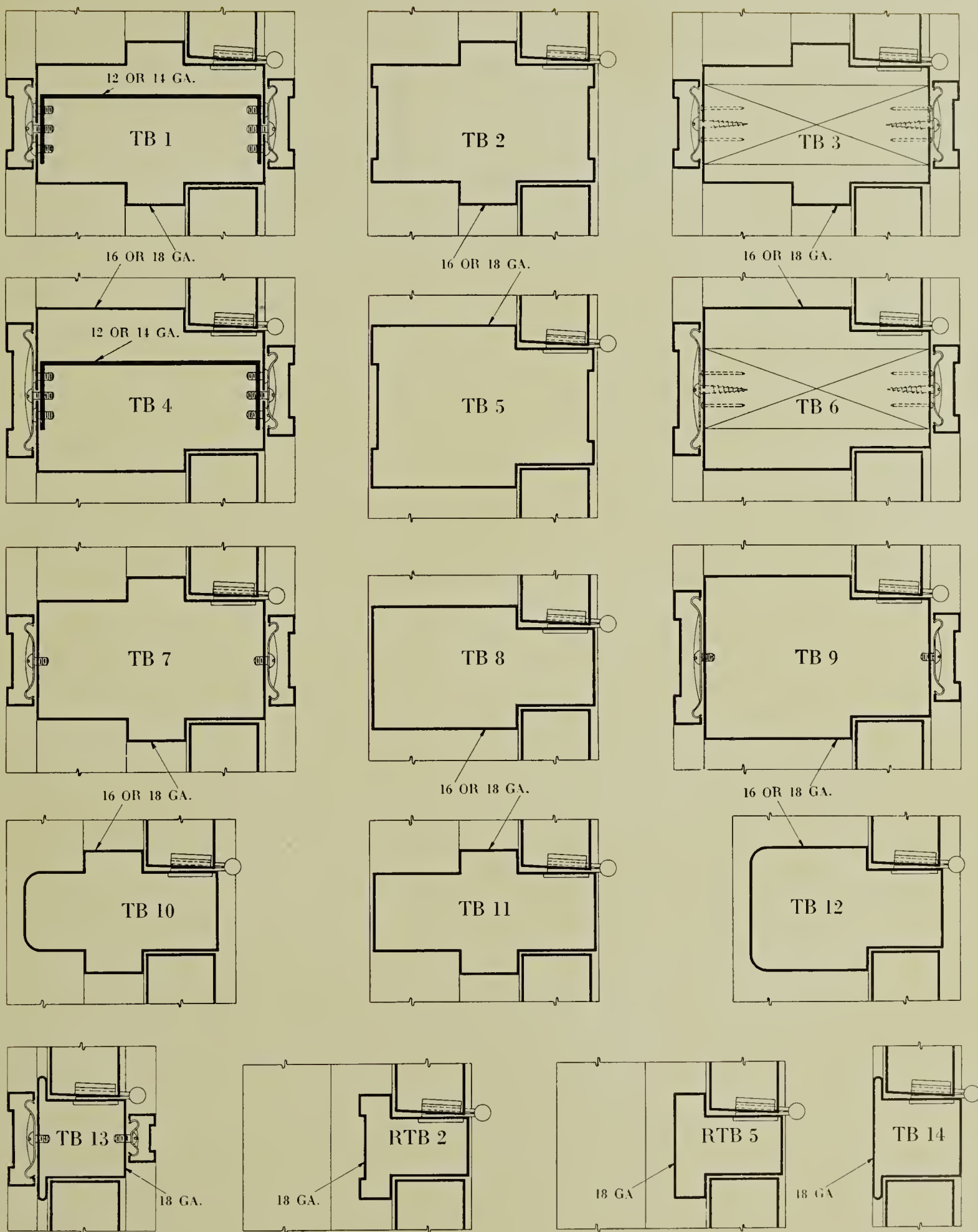
COMBINATION BUCK AND JAMB TYPE FRAMES

SCALE 3 IN. = 1 FT.



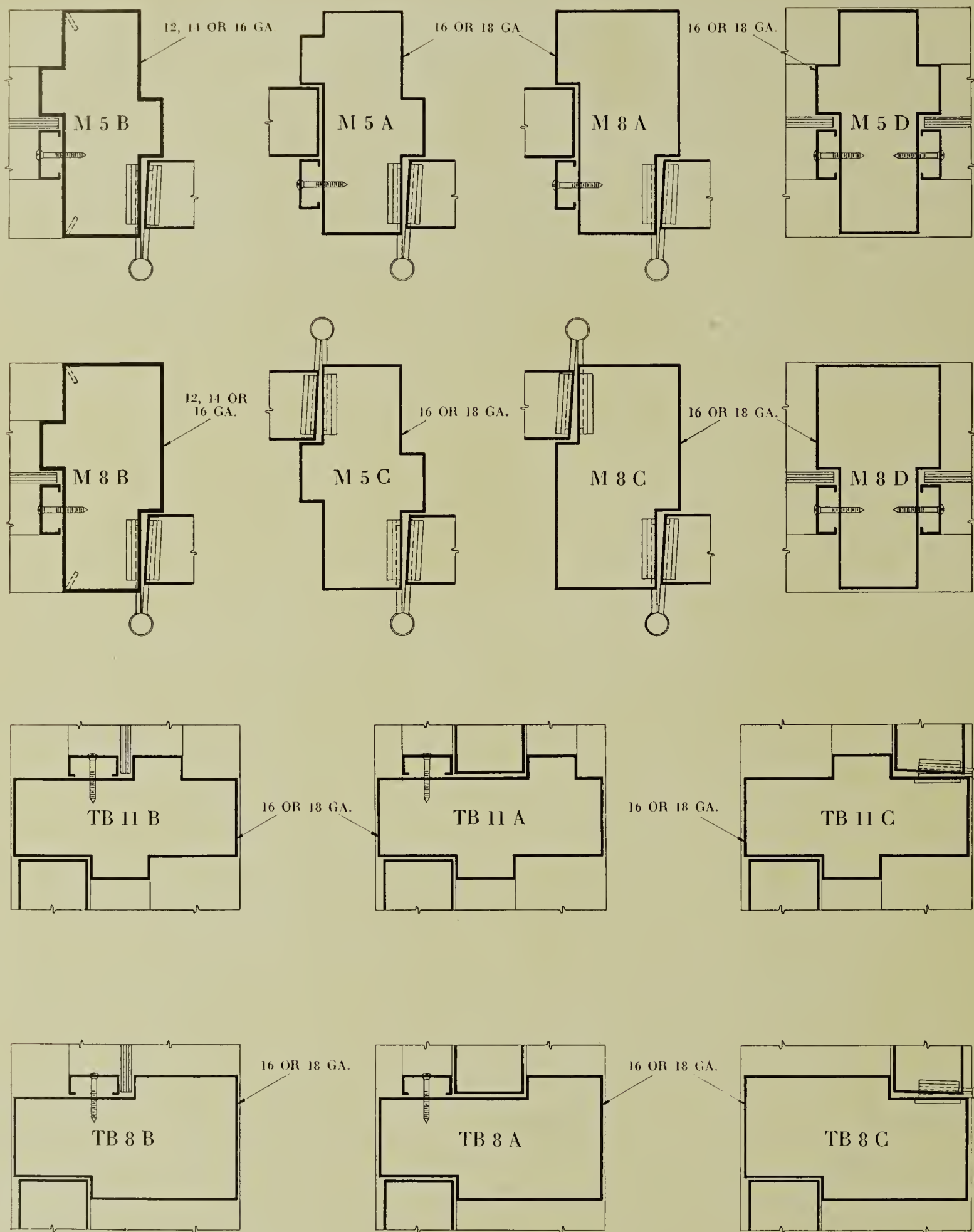
TYPES OF MULLIONS

SCALE 3 IN. = 1 FT.



TYPES OF TRANSOM BARS

SCALE 3 IN. = 1 FT.



Any Arrangements Illustrated Above Are Adaptable to Types Shown on Preceding Pages

TYPES OF MULLIONS AND TRANSOM BARS

SCALE 3 IN. = 1 FT.

ROLLED FRAMES

[*General Description*]

LOW first cost and definite economy in construction have combined to create a rapidly increasing demand for rolled type frames. The lower cost is made possible through standardization and volume production.

The saving of time in construction is obvious; (1) Frames are delivered to the building completely assembled, ready to install, and can be erected in one operation; (2) They are made to exact size, with all cut-outs for hardware, eliminating costly field labor necessary to fit wood doors to individual openings; (3) They eliminate the enforced waiting period necessary between thorough drying out of plaster and application of wood jambs and casings.

Rolled Type Frames as manufactured by the Metal Door & Trim Co. have unusually sharp, clean-cut lines because they are made of 16 ga. furniture stock steel by a special rolled process.

Increased plant facilities and special attention given to these frames, make possible prompt shipments.

FRAMES, MULLIONS AND TRANSOM BARS

[*Rolled Type*]

FRAMES RF1 to RF8 are standard as to profile and wall thickness, but can be supplied in any width and height. These are designed for 2" plaster, 3", 4" or 6" tile partitions and can be used with either wood, kalamein or hollow metal doors and sash $1\frac{3}{8}$ " or $1\frac{3}{4}$ " in thickness.

Any of these can be adapted to walls of a greater thickness as illustrated by types RF15 to RF18, and to wood, Simplex or similar partitions as shown by types RF13 and RF14. Standard frames can also be arranged for stationary doors and sash, or glass panels, similar to types RF3A and RF3B. These can also be used as cased openings and arranged for double doors as shown by types RF9 and RF10.

Frames with casing one side only, or with applied trim as illustrated by types RF11, RF12, RF19 and RF20, or for walls or doors and sash of thicknesses other than shown, are special and are more expensive than standard frames.

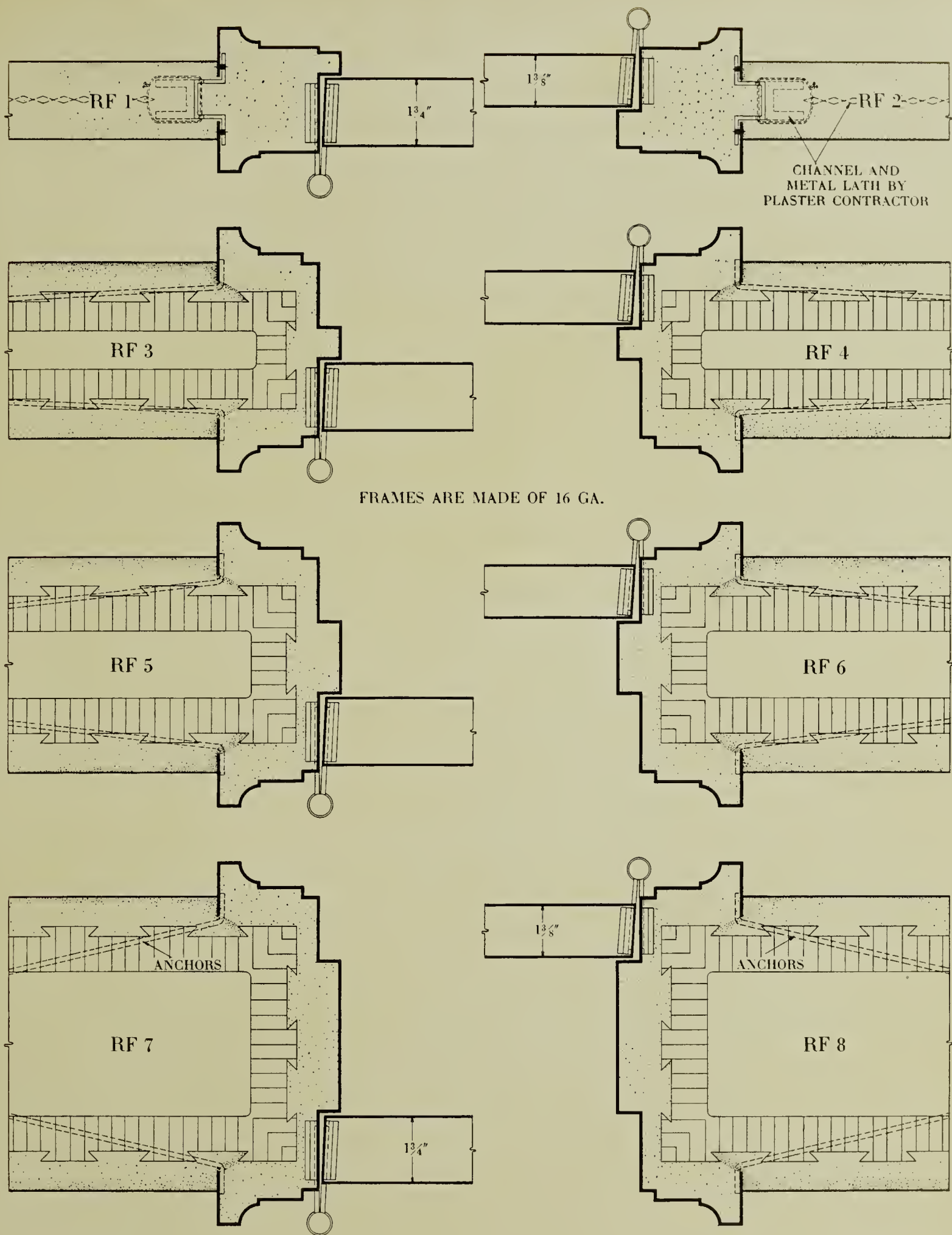
Mullions RM1 to RM8 and transom bars RTB1 to RTB8 are standard and can be used with any of the frames illustrated with exception of types RF1 and RF2 which require special mullions and transom bars. Any of these can be arranged for stationary doors and sash, or glass panels as illustrated by types RTB1A, RTB1B, RTB1D, RM5A and RM5D.

Where required, mullions and transom bars of the formed type illustrated on pages 108 to 110 can be used with rolled frames. They are, however, more costly than the rolled type.

Frames, mullions and transom bars illustrated are for doors and sash hung on butt hinges. However, any of the arrangements for hardware shown on pages 119 to 123 are in general adaptable to all types.

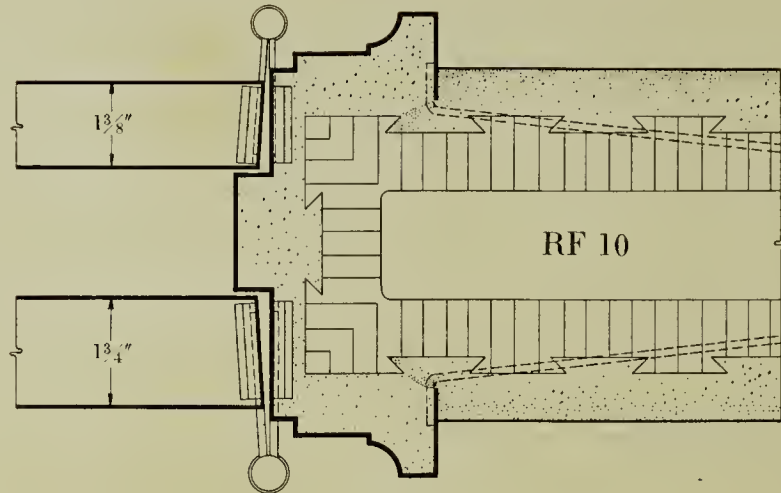
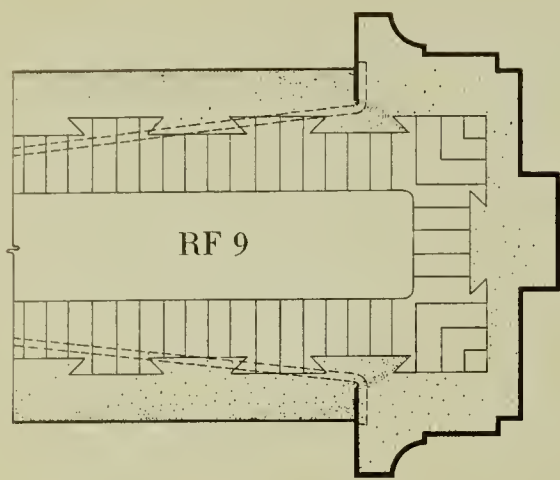
Plinths can be supplied where desired.

Where Underwriters' labels are required, refer to "Fire Underwriters' Requirements," pages 182 to 186.

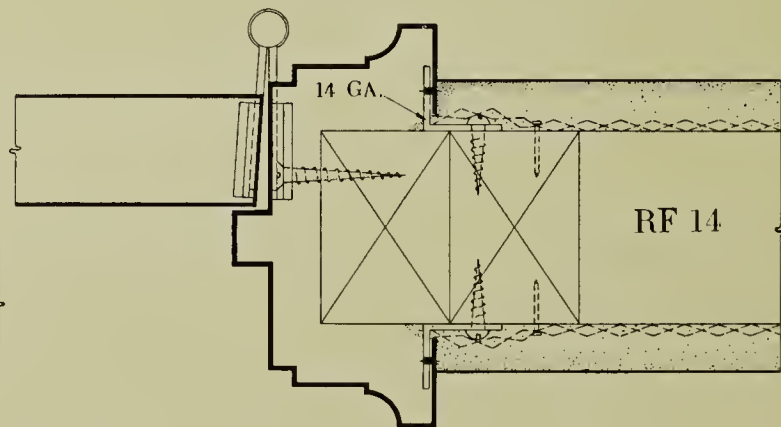
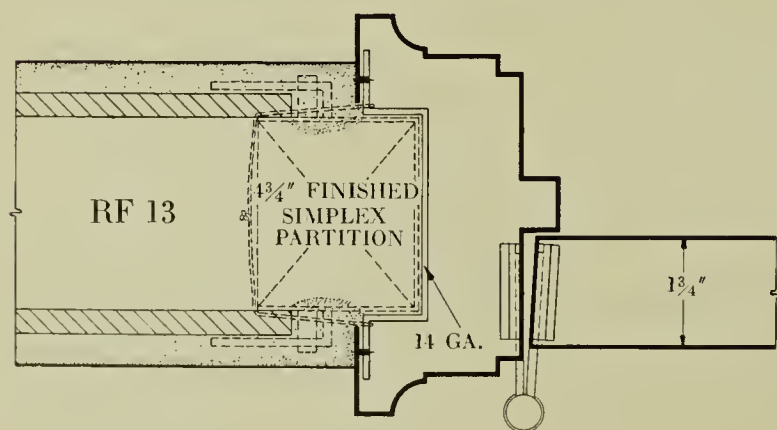
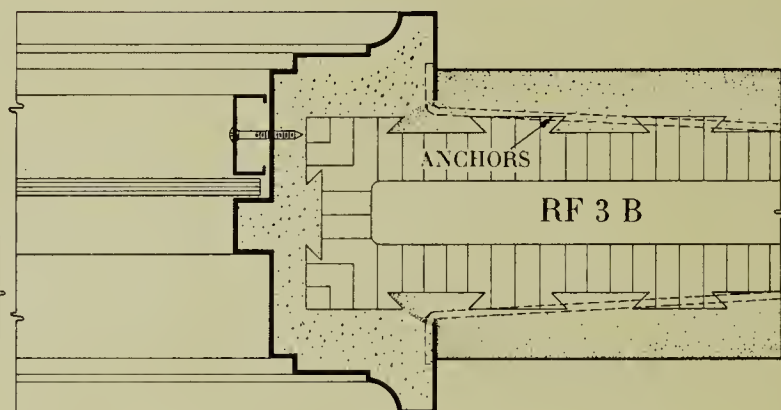
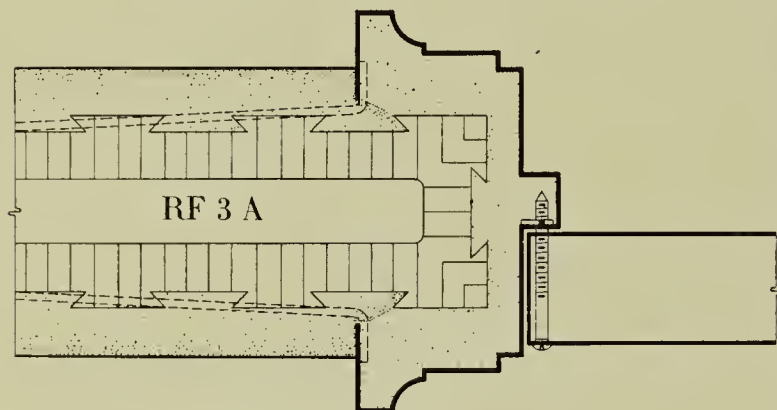
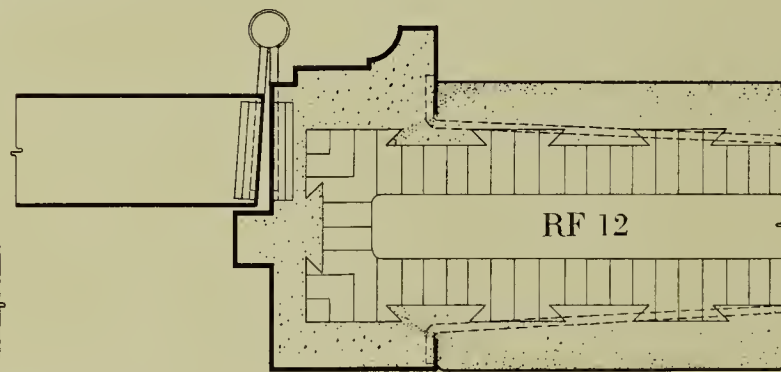
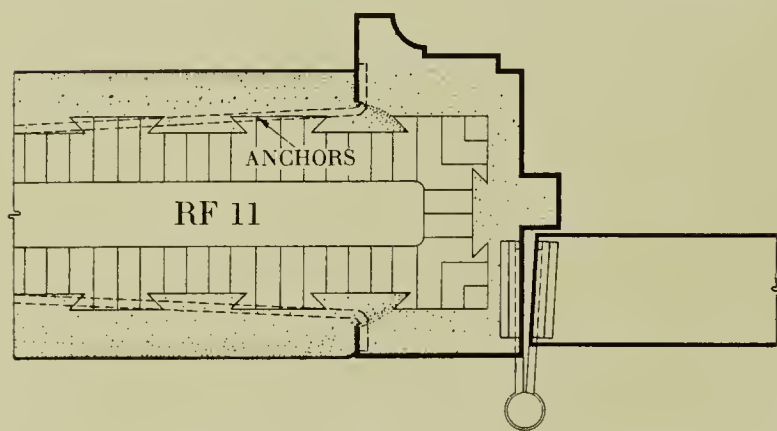


COMBINATION BUCK, JAMB AND TRIM FRAMES
(ROLLED TYPE)

SCALE 3 IN. = 1 FT.

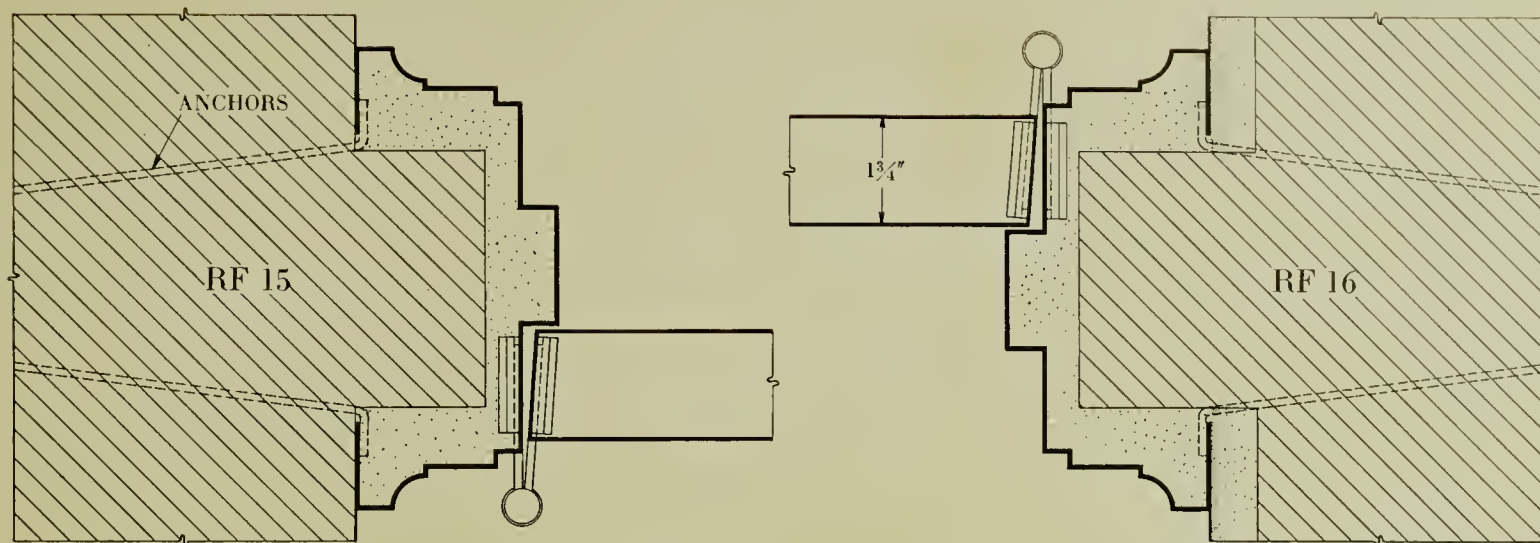


FRAMES ARE MADE OF 16 GA.

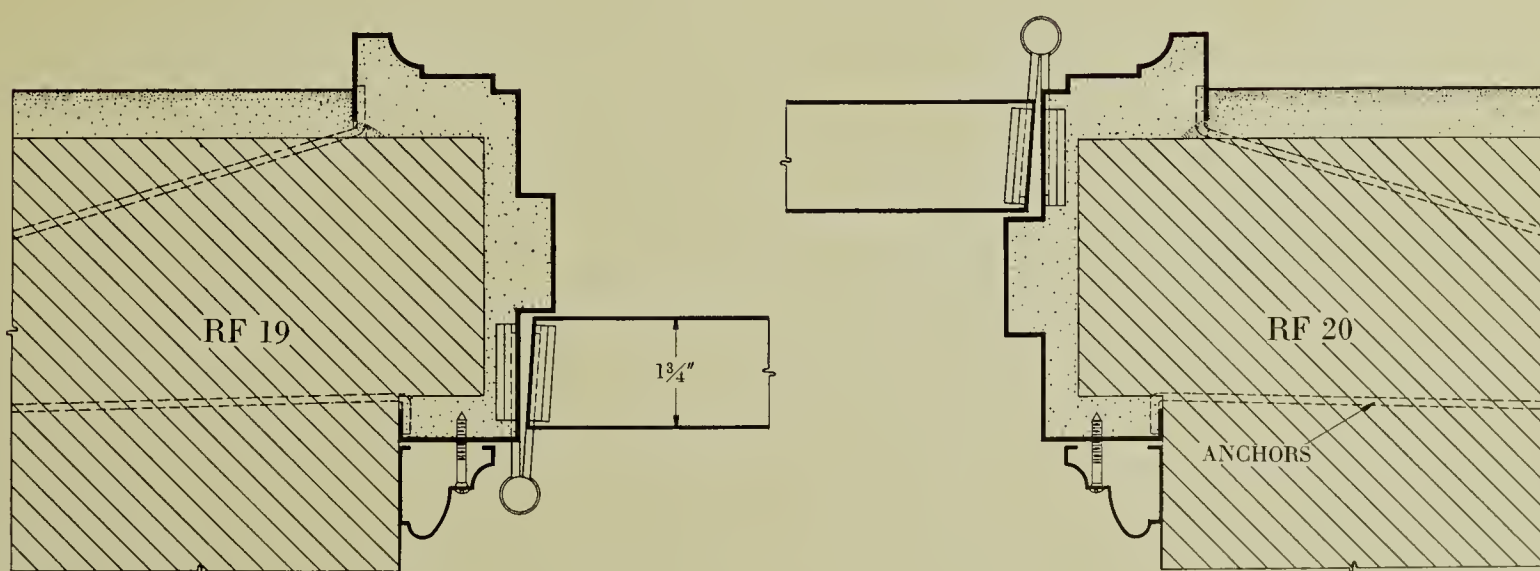
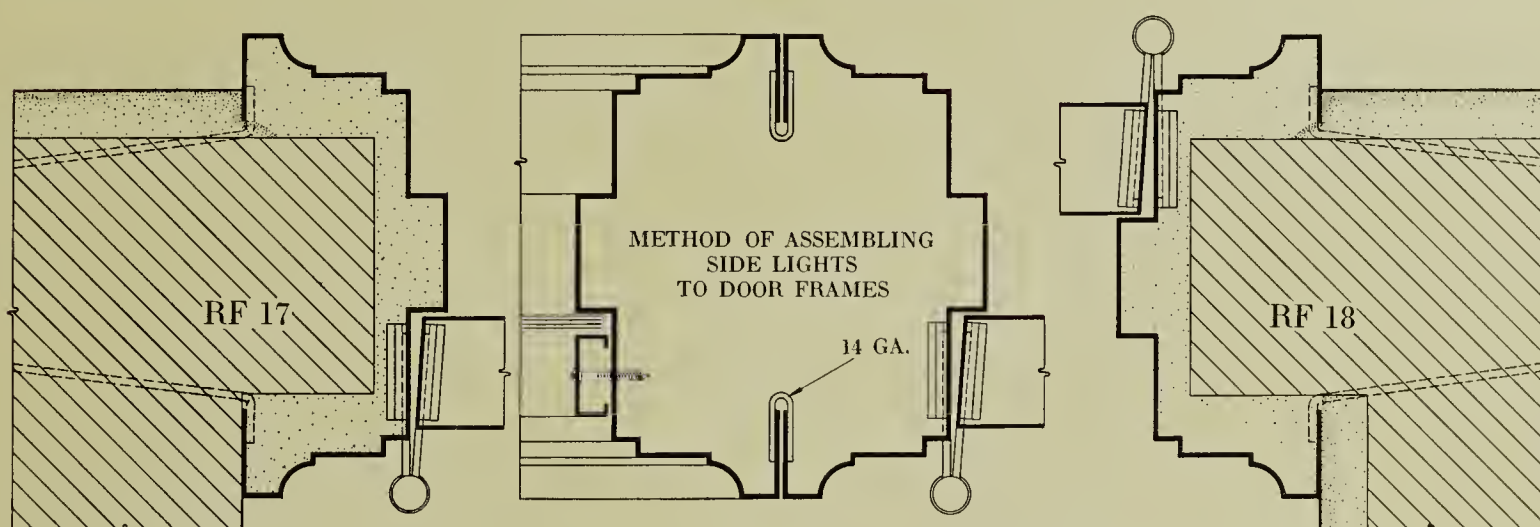


COMBINATION BUCK, JAMB AND TRIM FRAMES (ROLLED TYPE)

SCALE 3 IN. = 1 FT.

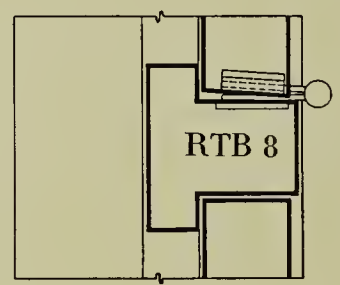
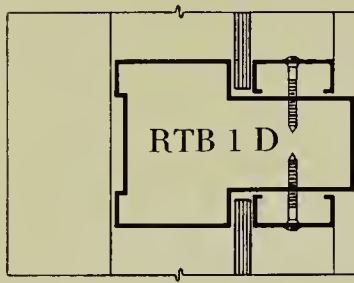
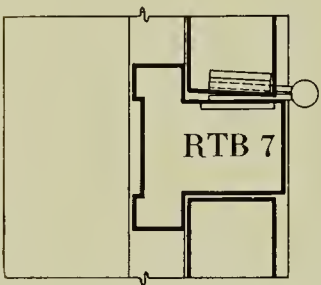
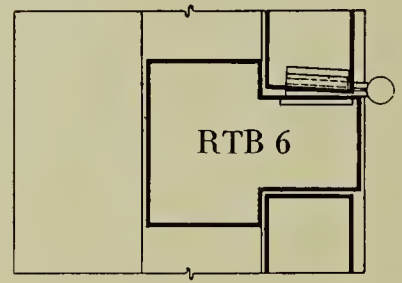
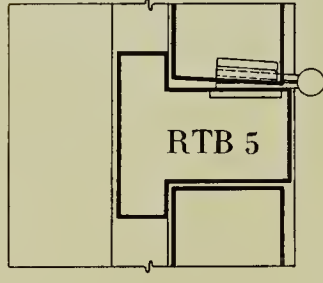
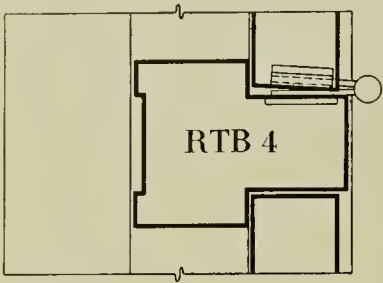
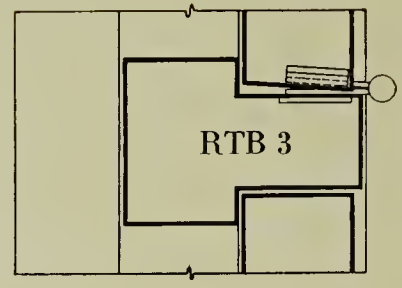
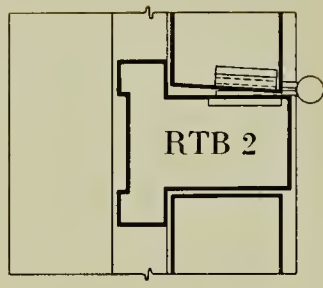
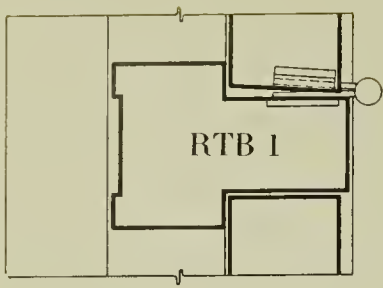


FRAMES ARE MADE OF 16 GA.

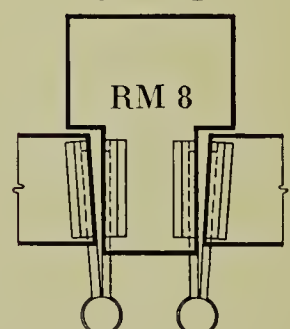
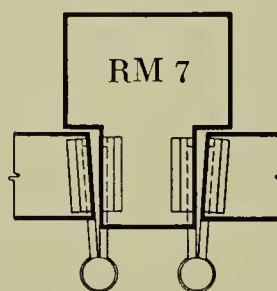
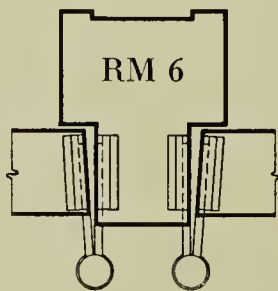
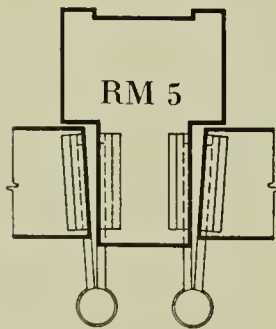
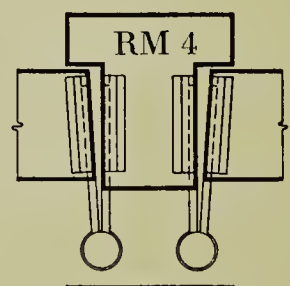
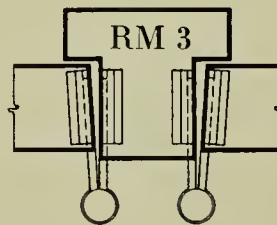
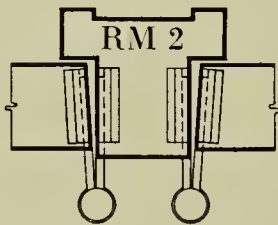
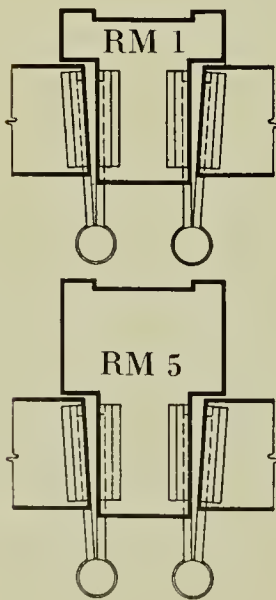
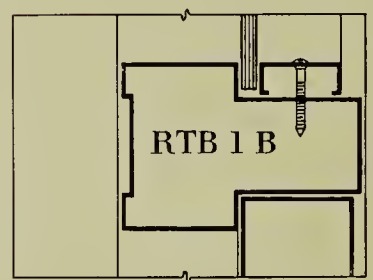
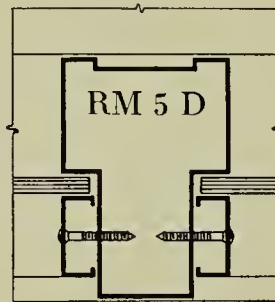
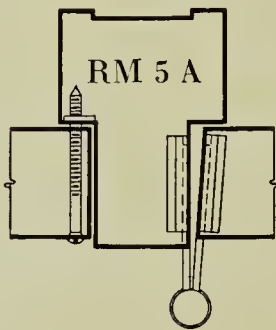
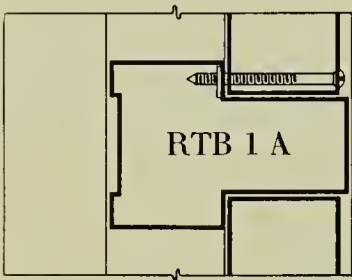


COMBINATION BUCK, JAMB AND TRIM FRAMES (ROLLED TYPE)

SCALE 3 IN. = 1 FT.



MULLIONS AND TRANSOM BARS ARE MADE OF 18 GA.



MULLIONS AND TRANSOM BARS
(ROLLED TYPE)

SCALE 3 IN. = 1 FT.

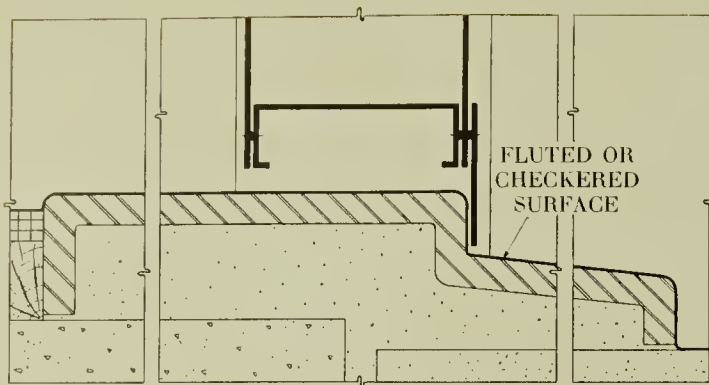
SILLS AND WEATHERSTRIPS



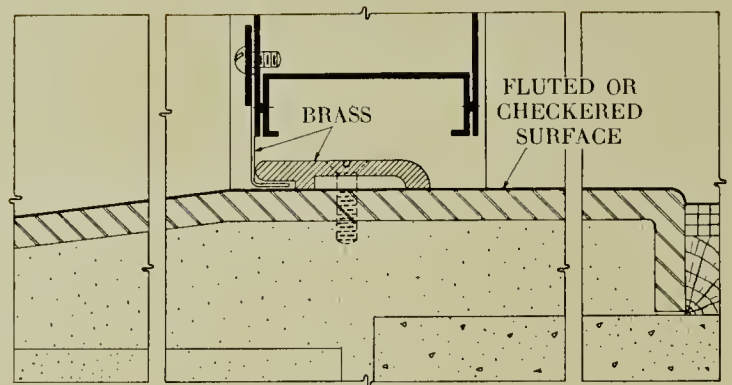
ILLUSTRATIONS cover sills and weatherstrips most generally used.

Weatherstrips are adaptable to any type of frame and thickness of door.

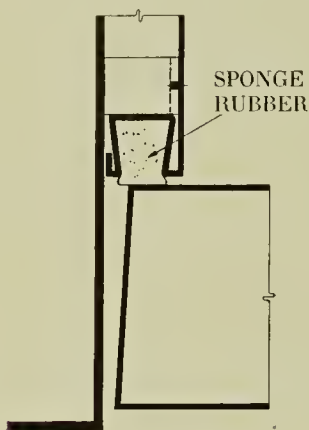
Sills can be supplied in bronze or cast iron and in any width and length. These can also be furnished in any other profile desired.



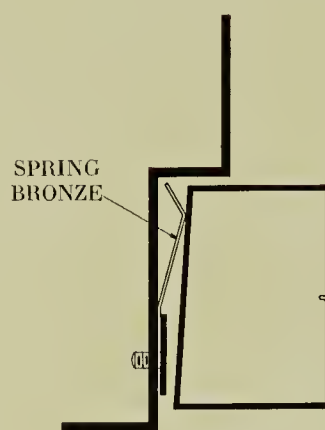
CS 1



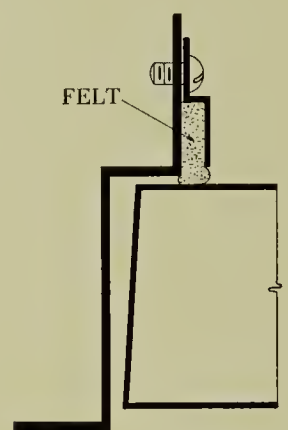
CS 2



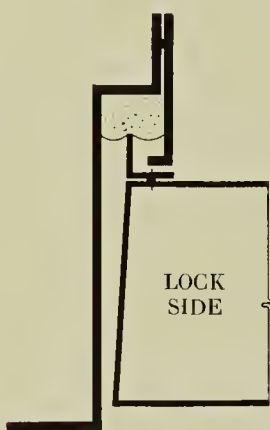
WS 1



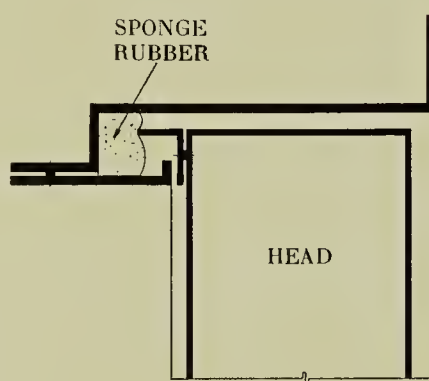
WS 2



WS 3

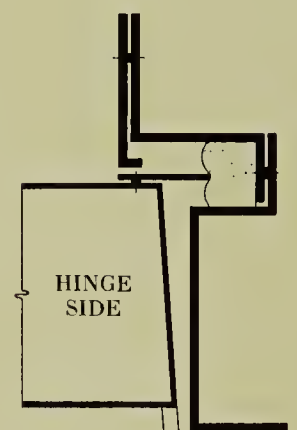


LOCK
SIDE

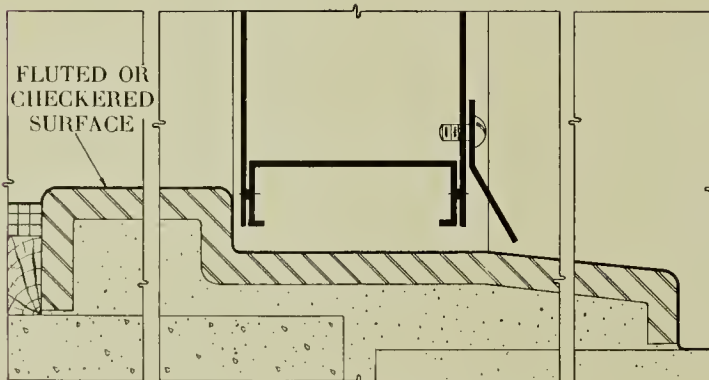


HEAD

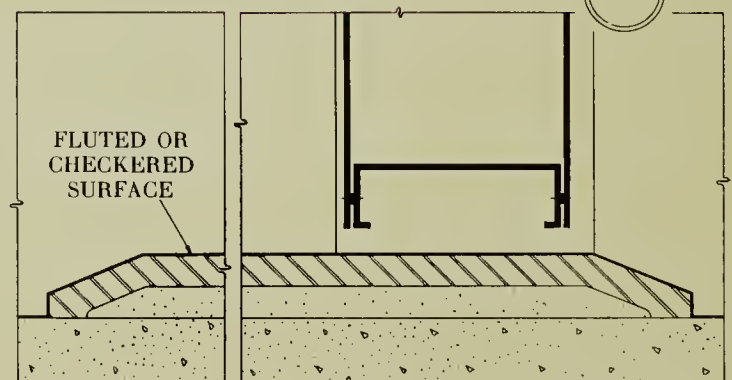
WS 4



HINGE
SIDE



CS 3



CS 4

SILL AND WEATHERSTRIP DETAILS

ONE-HALF SIZE

HARDWARE FOR SWING DOORS AND SASH



ILLUSTRATIONS on the succeeding pages cover standard arrangements for practically all types of hardware in general use. Stiles and rails shown will take regular beveled, rounded and rabbetted face hardware.



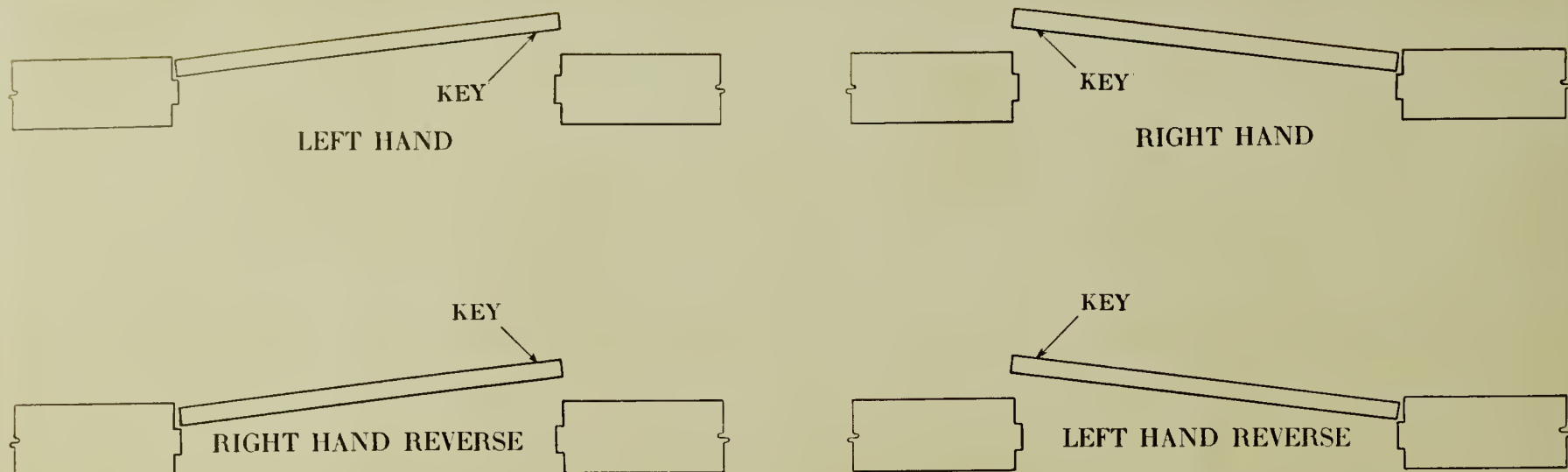
TEMPLATE HARDWARE should always be specified for hollow metal work and is ordinarily furnished under separate contract.

Schedules and templates of hardware for each opening are required before materials can be placed in production, as all mortising for hardware is done while steel is "flat". Templates may be either blue print or physical. Hardware manufacturers can usually furnish blue print templates on very short notice.

Altho frames only are being supplied, lock as well as strike plate templates must be furnished in order to properly locate the strike plates in the frames.

Finished hardware, except as noted, should be shipped to our plant, as it is not only customary but good practice to apply hardware at the factory.

Door checks, brackets, transom lifters and hardware of a similar nature that would interfere with crating, as well as hardware for combination type frames, should be delivered direct to the building and applied there by the contractor erecting the doors.



HANDS OF DOORS



THE “Hand” of a swing door is determined by facing the door from the outside. The “outside” is the street side of an exterior door, and the corridor or hall side of a room door. The “outside” of a communicating door, from room to room, is the side from which butts cannot be seen when door is closed.

The “outside” of twin doors is the space between the two doors.

The “outside” of a bath room or closet door is the corridor or room side.

Door opening inward or from you, with butts on left, is left hand swing and takes a regular left hand lock if key operates from outside.

Door opening inward or from you, with butts on right, is right hand swing and takes a regular right hand lock if key operates from outside.

Door opening outward or toward you, with butts on right, is left hand swing and takes a right hand reverse bevel lock if key operates from outside. If key ope-

rates from inside regular left hand lock is used.

Door opening outward or toward you, with butts on left, is right hand swing and takes a left hand reverse bevel lock if key operates from outside. If key operates from inside regular right hand lock is used.

If key operates from both sides regular hand lock is used.

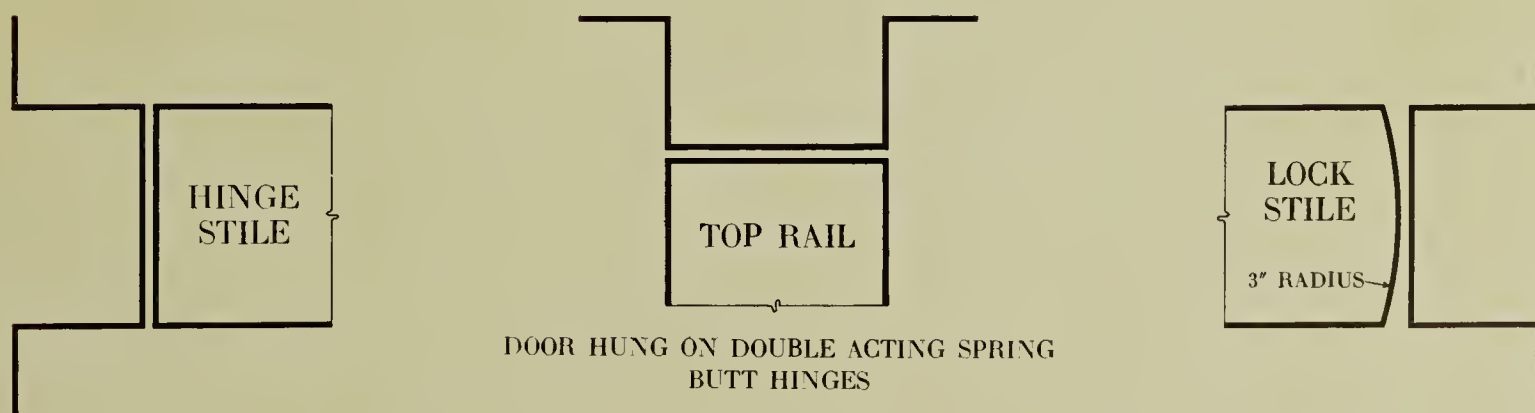
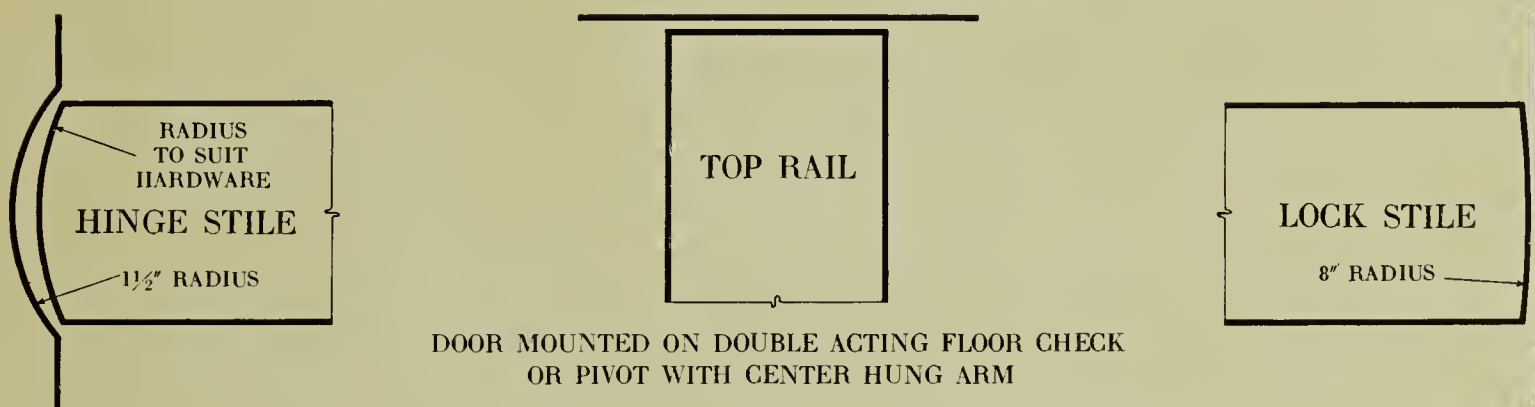
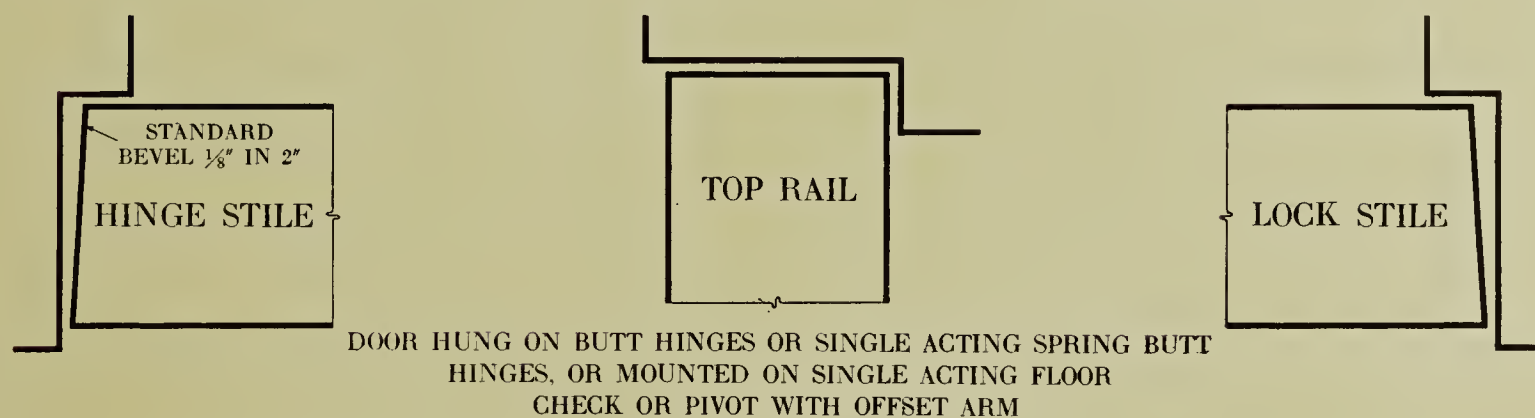
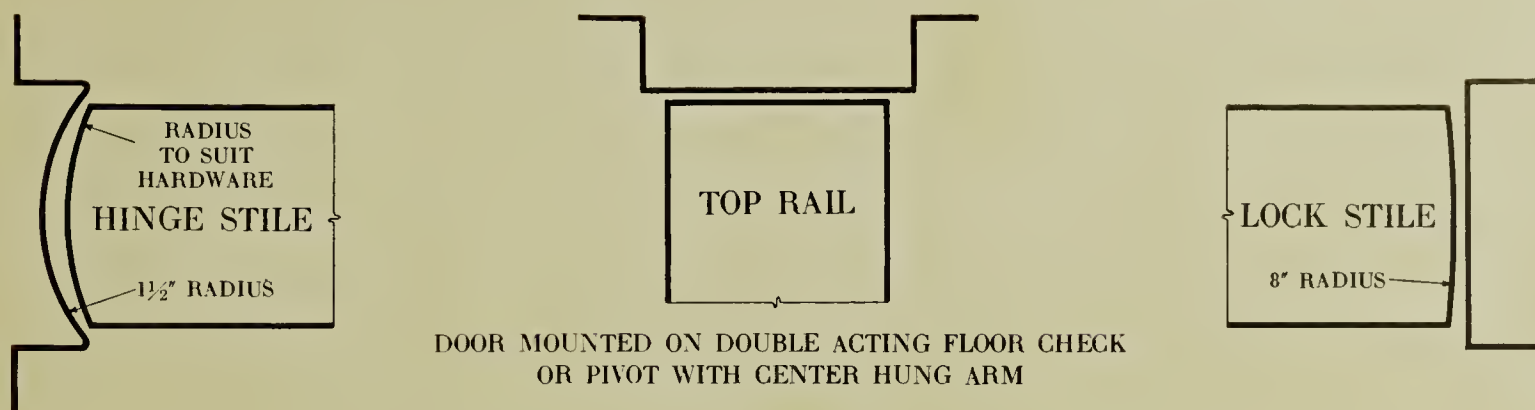
If doors are in pairs, active door determines hand, and the side from which key operates governs the hand of lock.

The hand of a casement sash is determined by facing the sash from the room side.

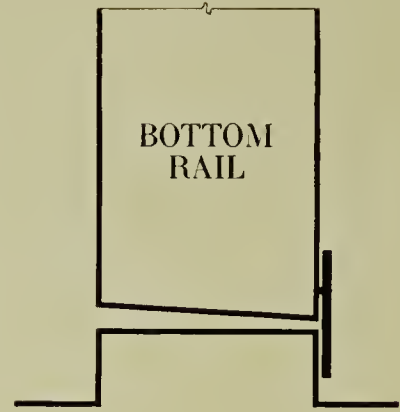
If butts are on the left it is left hand swing, irrespective of whether sash open in or out.

If butts are on the right it is right hand swing.

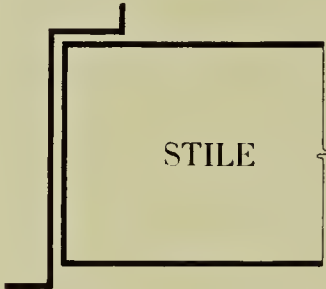
If sash are in pairs, active sash or the one to which fastener is attached determines hand.



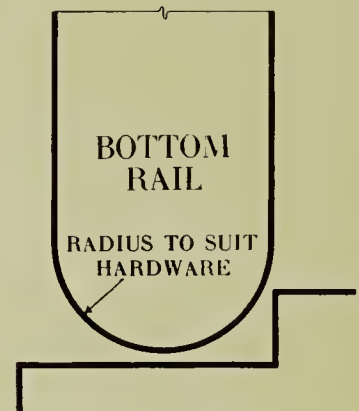
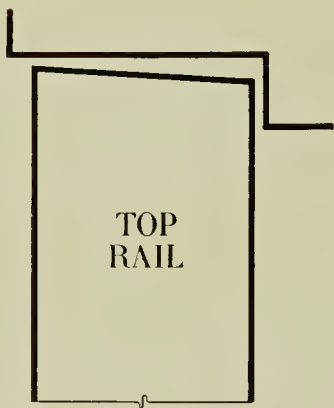
DOOR STILES AND RAILS ONE-HALF SIZE



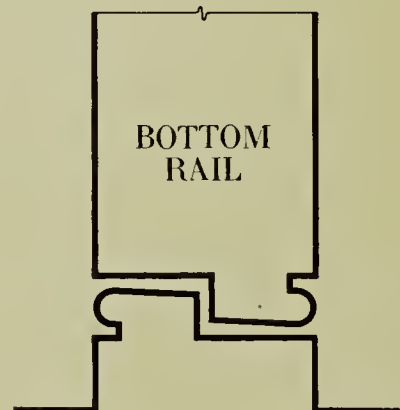
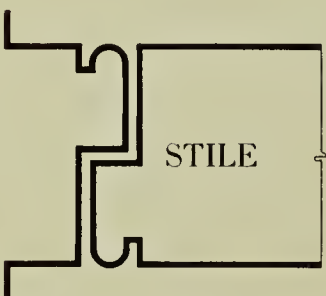
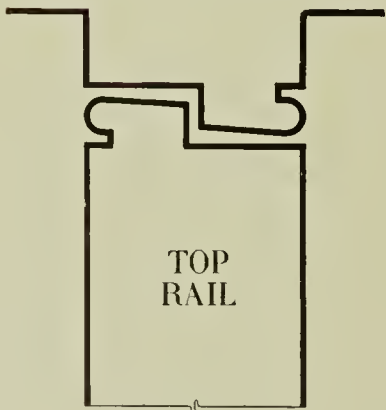
SASH MOUNTED ON PIVOTS ADAPTABLE FOR CATCH
OR TRANSOM LIFTER



SASH HUNG ON BUTT HINGES ADAPTABLE FOR CATCH
AND CHAINS OR TRANSOM LIFTER

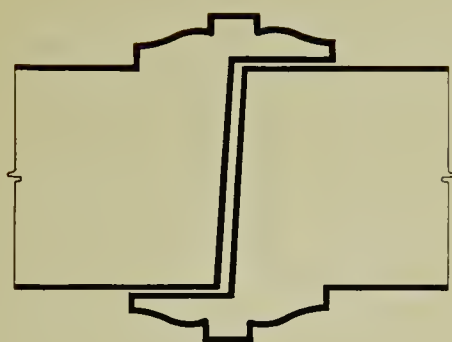


SASH MOUNTED ON CONCEALED OPERATOR
PIVOTED AT BOTTOM



SASH MOUNTED ON PIVOTS ADAPTABLE FOR CATCH
OR TRANSOM LIFTER

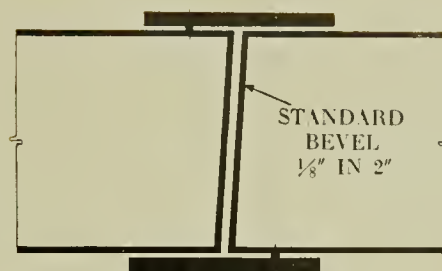
SASH STILES AND RAILS
ONE-HALF SIZE



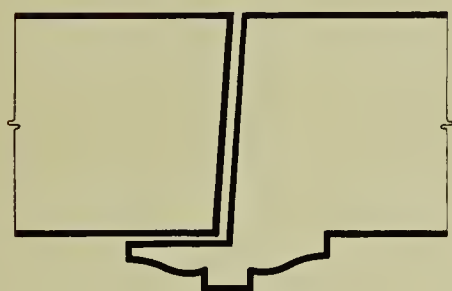
MS 1



MS 2



MS 3

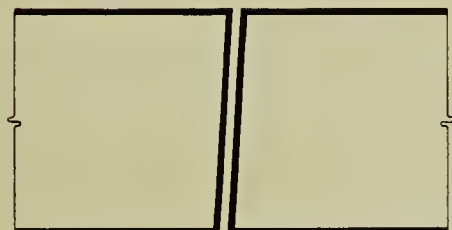


MS 4

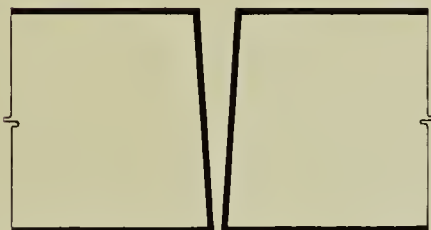
MEETING STILES FOR DOORS
HUNG ON BUTT HINGES OR
SINGLE ACTING SPRING BUTT
HINGES, OR MOUNTED ON
SINGLE ACTING FLOOR
CHECKS OR PIVOTS WITH
OFFSET ARM



MS 5



MS 6



MS 7



MS 8



MS 9

MEETING STILES FOR DOORS
HUNG ON DOUBLE ACTING
SPRING BUTT HINGES, OR
MOUNTED ON DOUBLE ACT-
ING FLOOR CHECKS OR
PIVOTS WITH CENTER HUNG
ARM

TYPES OF MEETING STILES

ONE-HALF SIZE

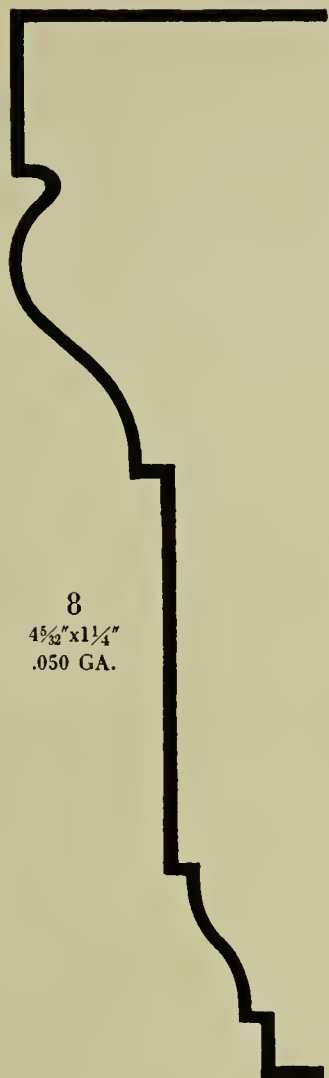
MOULDINGS



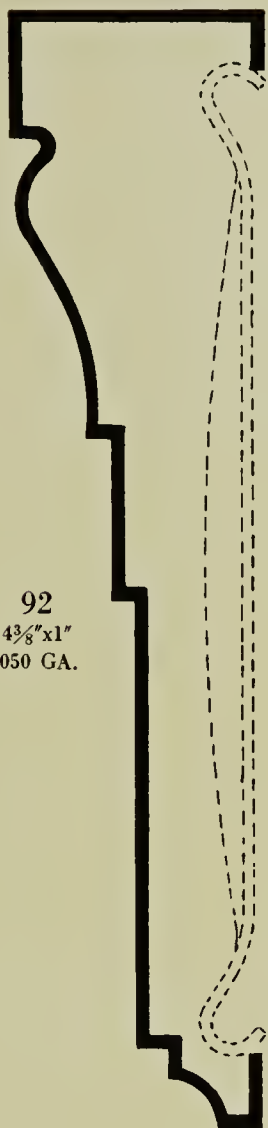
THE casings, mouldings and miscellaneous shapes illustrated are standard. Special shapes can be promptly supplied at the additional cost of tool equipment.

Casings and mouldings are secured where possible by concealed fastenings.

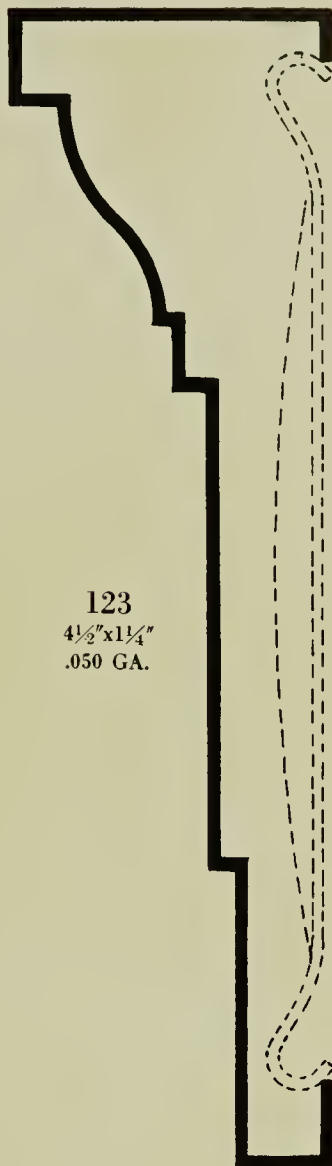
Plinths can be furnished for any of the casings and scribe mouldings shown.



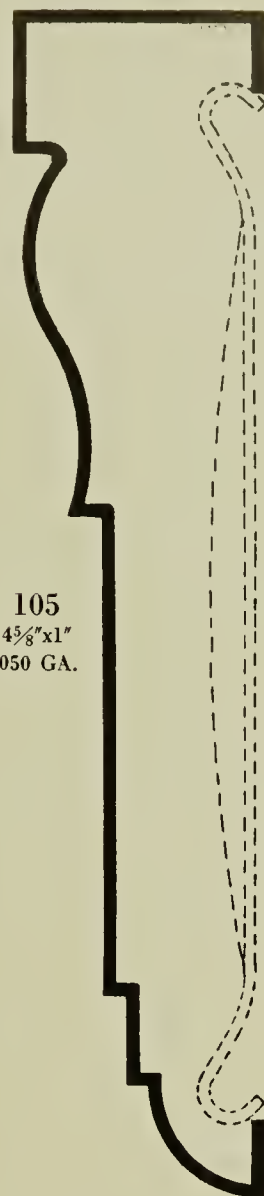
8
4 $\frac{5}{32}$ " x 1 $\frac{1}{4}$ "
.050 GA.



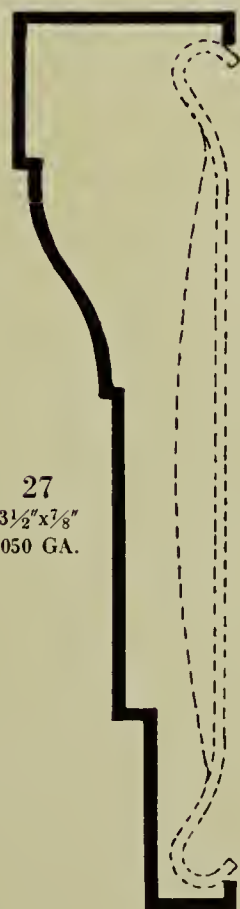
92
4 $\frac{3}{8}$ " x 1"
.050 GA.



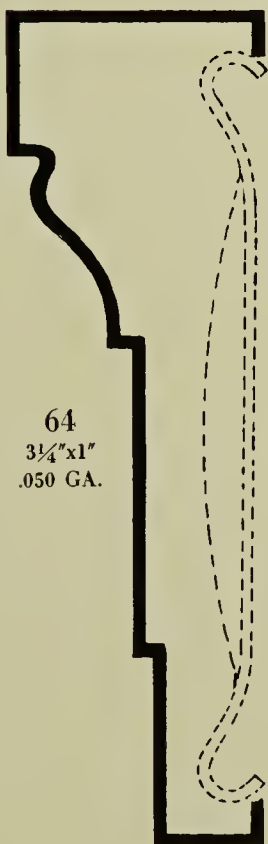
123
4 $\frac{1}{2}$ " x 1 $\frac{1}{4}$ "
.050 GA.



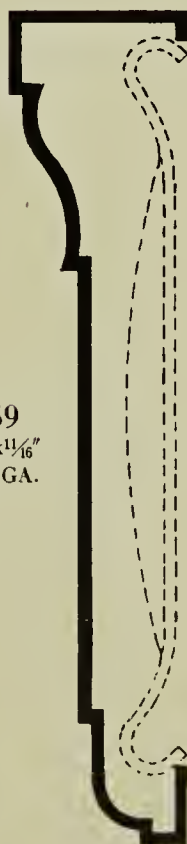
105
4 $\frac{5}{8}$ " x 1"
.050 GA.



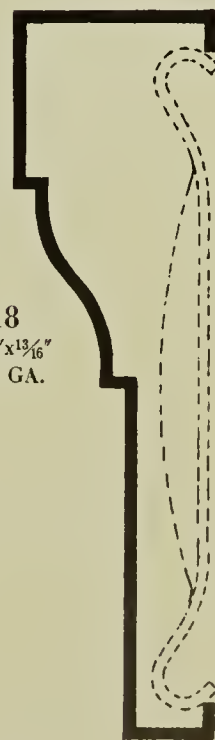
27
3 $\frac{1}{2}$ " x $\frac{7}{8}$ "
.050 GA.



64
3 $\frac{1}{4}$ " x 1"
.050 GA.

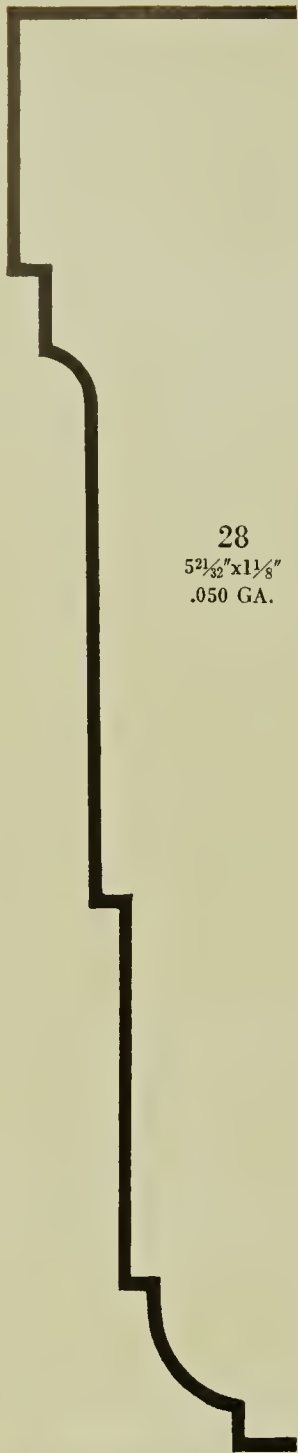


159
3 $\frac{1}{4}$ " x 1 $\frac{1}{16}$ "
.050 GA.

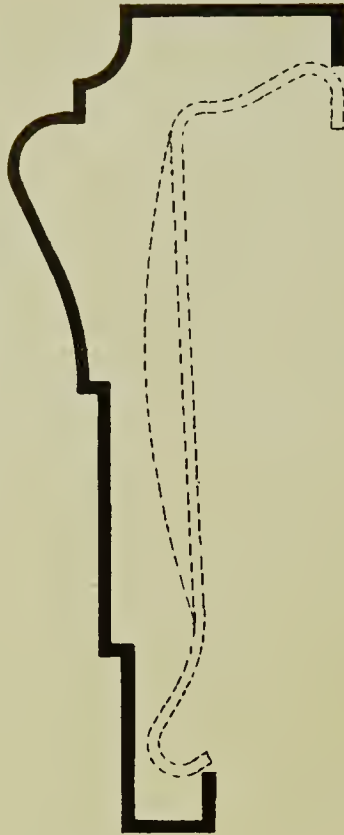


18
2 $\frac{13}{16}$ " x 1 $\frac{3}{16}$ "
.050 GA.

CASINGS
FULL SIZE



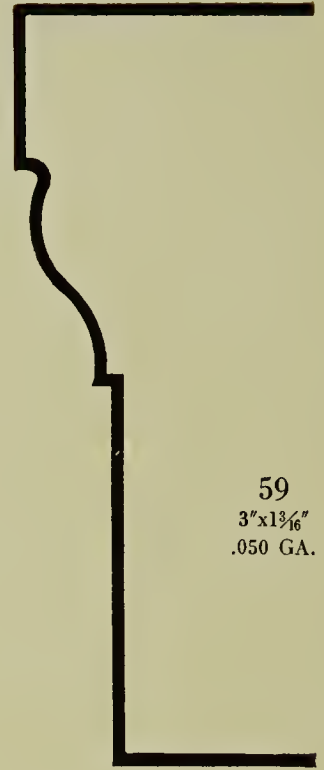
28
 $5\frac{21}{32}'' \times 1\frac{1}{8}''$
.050 GA.



72
 $3\frac{1}{4}'' \times 1\frac{5}{16}''$
.050 GA.



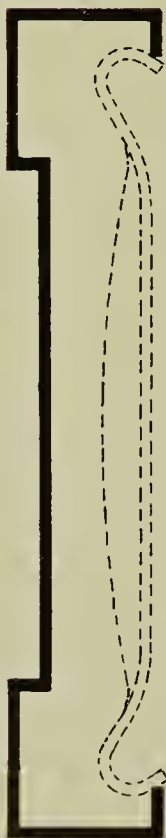
106
 $3\frac{1}{16}'' \times 3\frac{1}{32}''$
.050 GA.



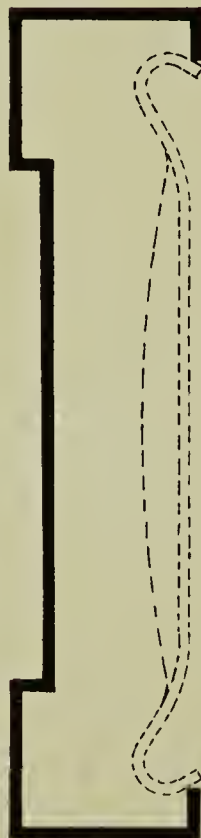
59
 $3'' \times 1\frac{3}{16}''$
.050 GA.



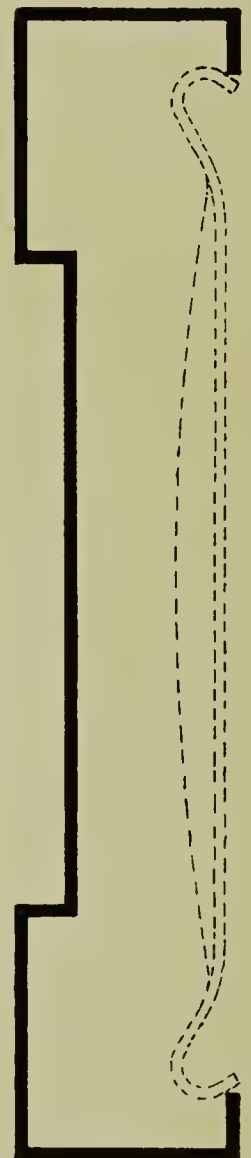
149
 $2\frac{1}{4}'' \times \frac{7}{8}''$
.050 GA.



117
 $3\frac{1}{4}'' \times \frac{5}{8}''$
.050 GA.



73
 $3\frac{1}{4}'' \times \frac{3}{4}''$
.050 GA.

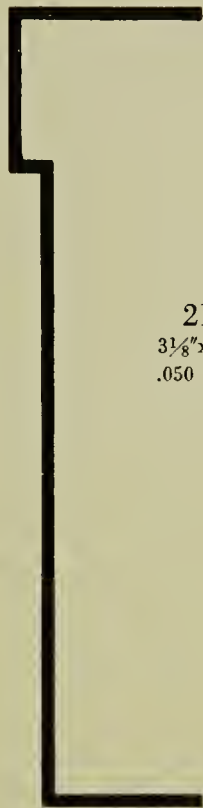


53
 $4\frac{1}{2}'' \times \frac{7}{8}''$
.050 GA.

CASINGS
FULL SIZE



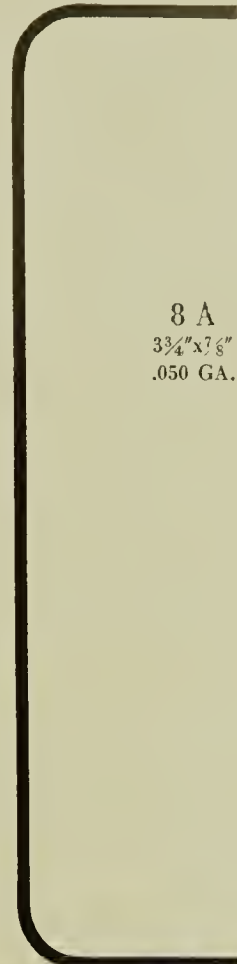
25
2 3/4" x 1"
.050 GA.



21
3 1/8" x 3/4"
.050 GA.



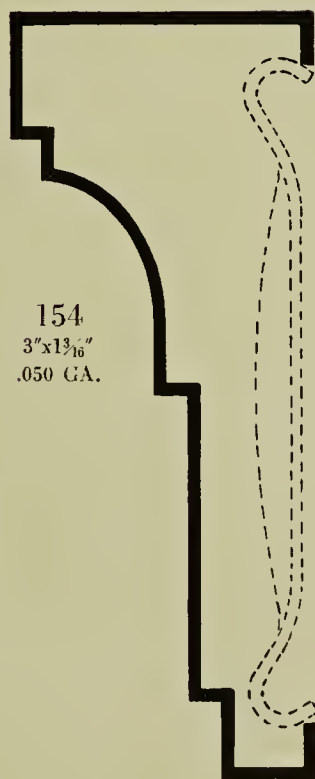
12
3 3/4" x 5/8"
.050 GA.



8 A
3 3/4" x 7/8"
.050 GA.



143
4 1/2" x 1 1/2"
.050 GA.



154
3" x 1 1/16"
.050 GA.



9
3 1/4" x 5/8"
.050 GA.



67
3 1/4" x 1 5/32"
.050 GA.

CASINGS
FULL SIZE



104
 $1\frac{3}{4}" \times \frac{9}{16}"$
.050 GA.



109
 $1\frac{3}{4}" \times \frac{5}{8}"$
.050 GA.



70
 $1\frac{5}{8}" \times \frac{9}{16}"$
.050 GA.



16
 $1\frac{5}{8}" \times \frac{9}{16}"$
.050 GA.



45
 $1\frac{1}{2}" \times \frac{3}{4}"$
.050 GA.



34
 $3\frac{1}{32}" \times \frac{7}{8}"$
.050 GA.



26
 $1" \times \frac{5}{8}"$
.050 GA.



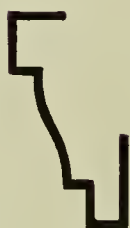
19
 $1\frac{1}{8}" \times \frac{9}{16}"$
.050 GA.



100
 $1\frac{1}{2}" \times 1\frac{1}{16}"$
.050 GA.



31
 $1\frac{9}{16}" \times \frac{3}{4}"$
.050 GA.



153
 $\frac{7}{8}" \times 1\frac{1}{32}"$
.040 GA.



157
 $\frac{3}{4}" \times \frac{5}{8}"$
.050 GA.



20
 $\frac{5}{8}" \times 1\frac{9}{32}"$
.050 GA.



122
 $\frac{5}{8}" \times \frac{5}{8}"$
.050 GA.



35
 $1\frac{9}{32}" \times 1\frac{1}{32}"$
.050 GA.



23
 $1\frac{1}{2}" \times 1\frac{1}{2}"$
.050 GA.

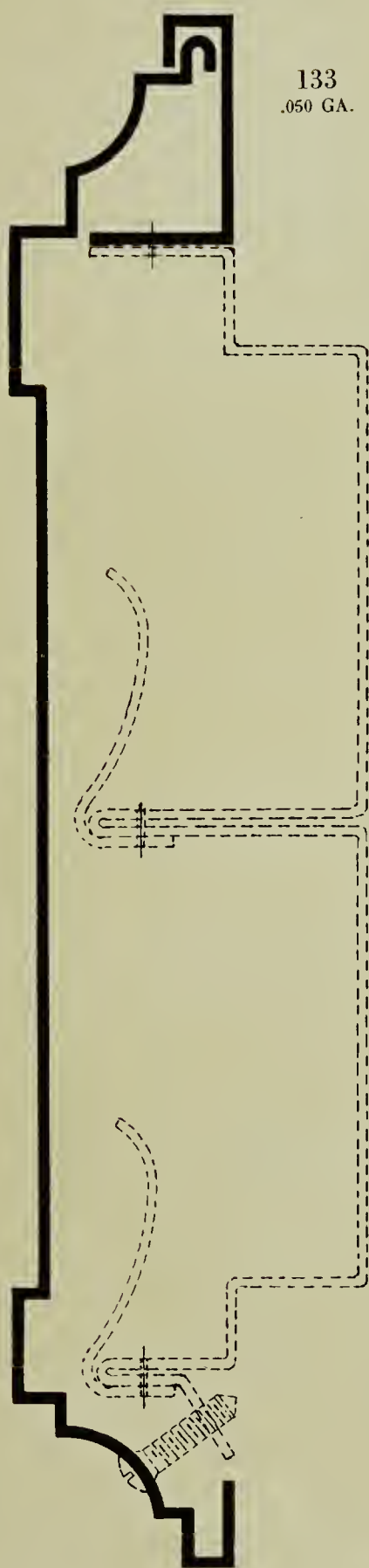


110
 $1\frac{3}{4}" \times \frac{7}{8}"$
.050 GA.



121
 $1\frac{1}{2}" \times \frac{5}{8}"$
.050 GA.

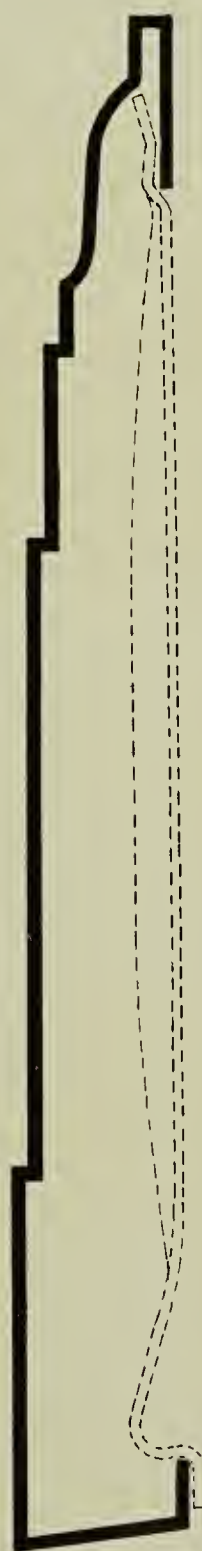
SCRIBE AND STOP MOULDINGS
FULL SIZE



133
.050 GA.



126
 $7\frac{1}{16}'' \times 3\frac{3}{4}''$
.050 GA.



111
 $6'' \times 1\frac{1}{16}''$
.050 GA.



63
 $6'' \times 1\frac{1}{16}''$
.050 GA.



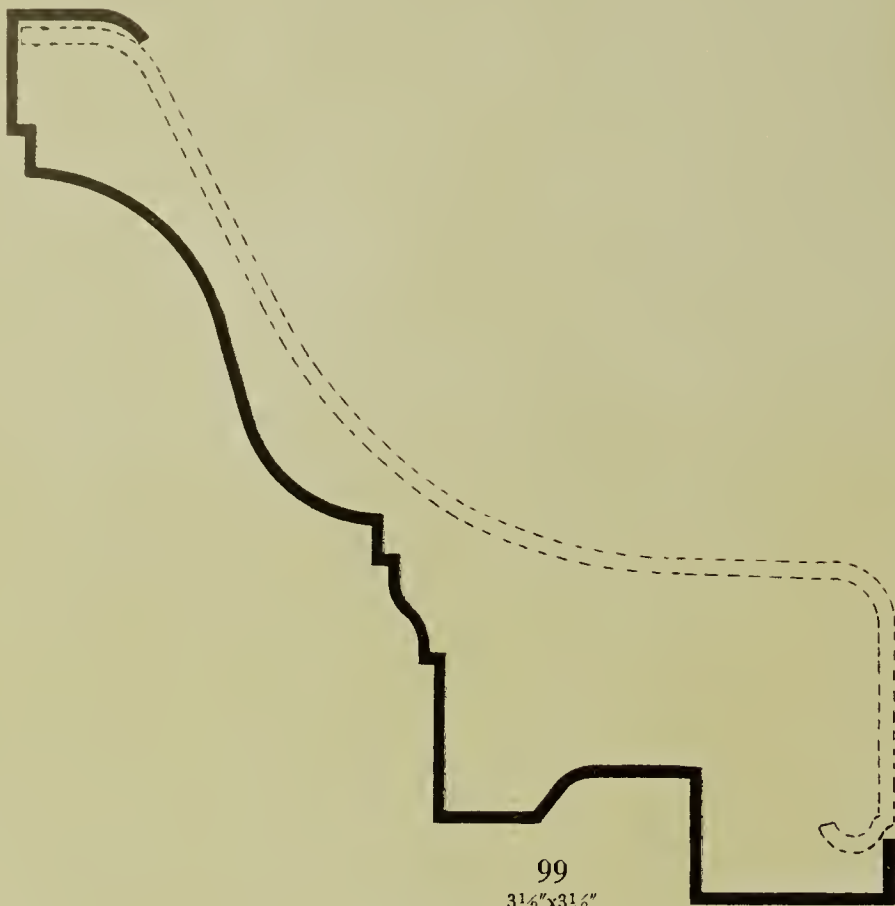
101
 $2\frac{1}{2}'' \times 1\frac{1}{2}''$
.050 GA.



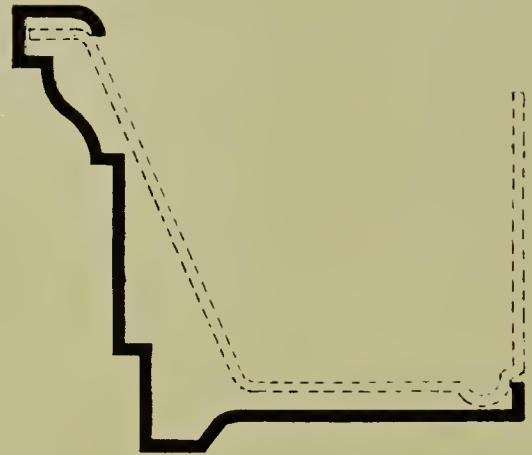
158
 $4\frac{1}{4}'' \times 1\frac{1}{16}''$
.050 GA.

132
 $6\frac{15}{16}'' \times 1''$
.050 GA.

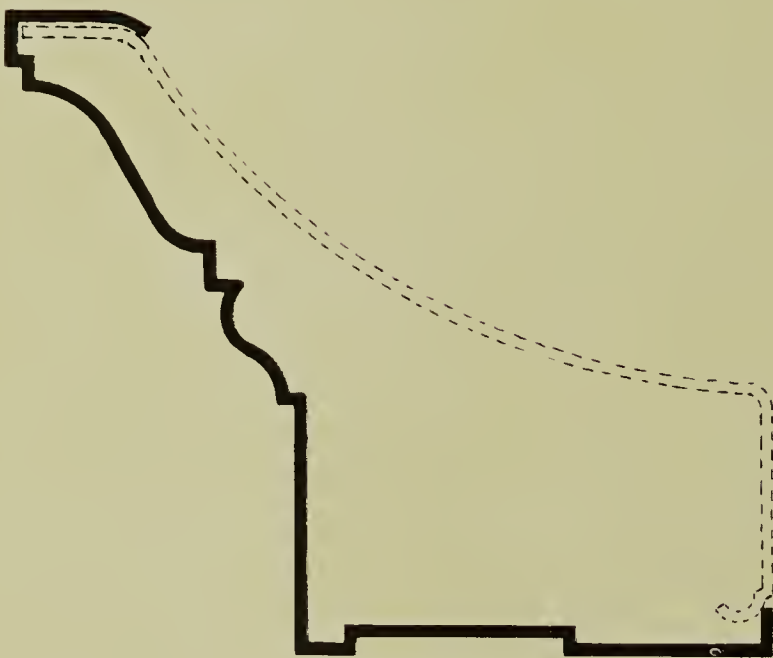
CHAIR RAIL AND BASE MOULDINGS
FULL SIZE



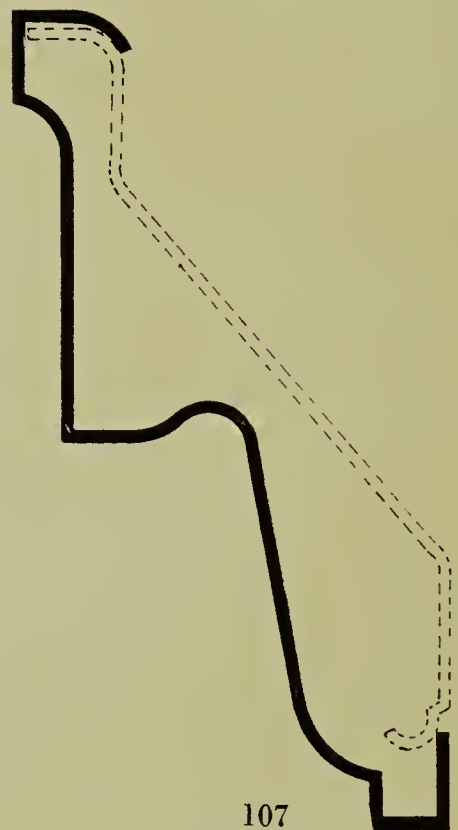
99
 $3\frac{1}{2}" \times 3\frac{1}{2}"$
 .050 GA.



144
 $1\frac{3}{4}" \times 2"$
 .050 GA.



155
 $2\frac{1}{2}" \times 3"$
 .050 GA.



107
 $3\frac{3}{16}" \times 1\frac{1}{16}"$
 .050 GA.

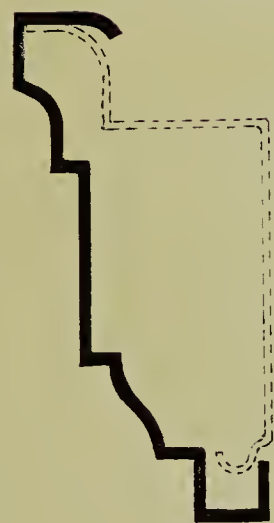
WIRE MOULDINGS
 FULL SIZE



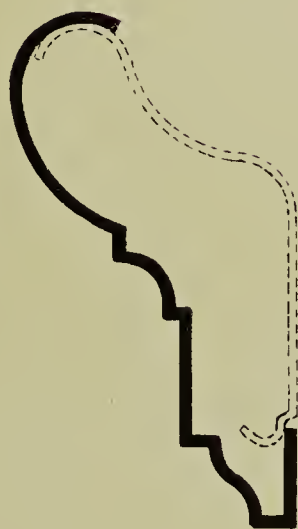
7
 $3\frac{3}{32}" \times 2\frac{1}{32}"$
 .050 GA.



13
 $2\frac{31}{32}" \times 2\frac{1}{32}"$
 .050 GA.



98
 $2" \times 1"$
 .050 GA.



124
 $2" \times 1\frac{1}{8}"$
 .050 GA.



11
 $2\frac{9}{32}" \times 1\frac{3}{32}"$
 .050 GA.

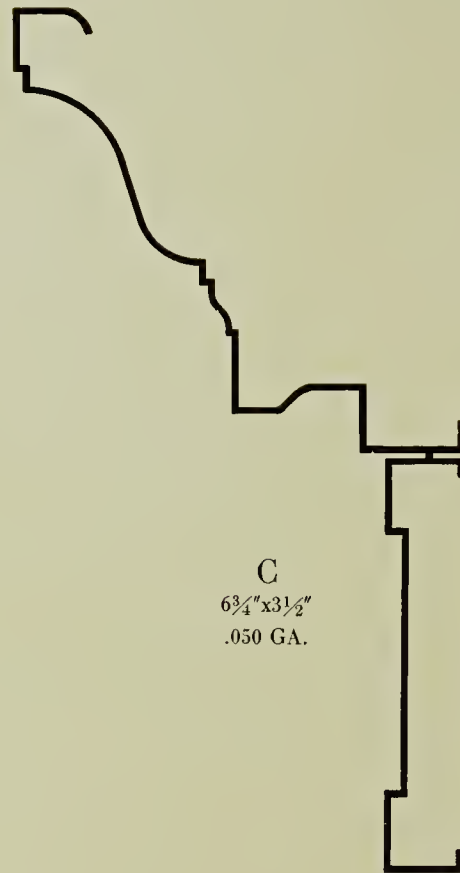
WIRE AND PICTURE MOULDINGS
 FULL SIZE



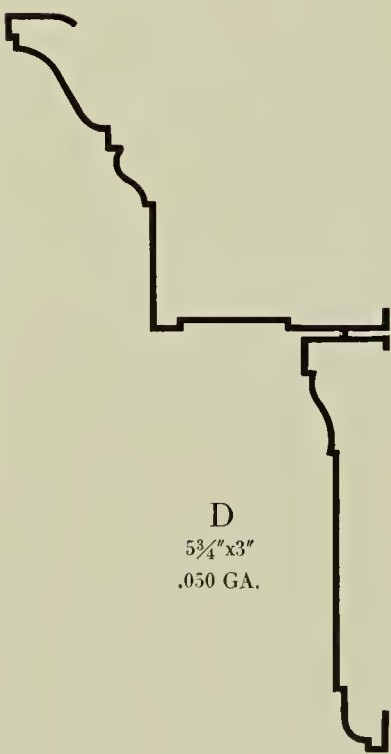
A
 $6\frac{3}{32}" \times 2\frac{13}{32}"$
 .050 GA.



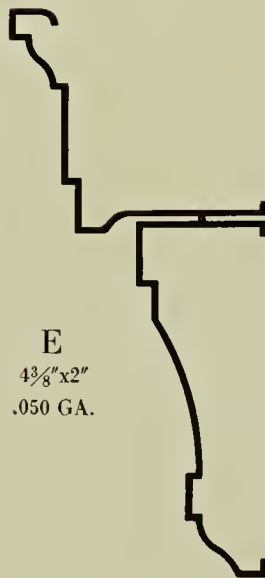
B
 $6\frac{5}{32}" \times 2\frac{19}{32}"$
 .050 GA.



C
 $6\frac{3}{4}" \times 3\frac{1}{2}"$
 .050 GA.



D
 $5\frac{3}{4}" \times 3"$
 .050 GA.

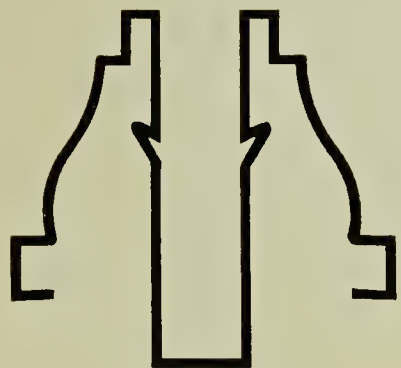


E
 $4\frac{3}{8}" \times 2"$
 .050 GA.



120
 $5\frac{3}{4}" \times 2\frac{17}{32}"$
 .050 GA.

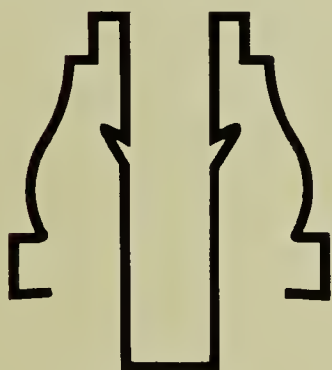
CORNICE MOULDINGS
 ONE-HALF SIZE



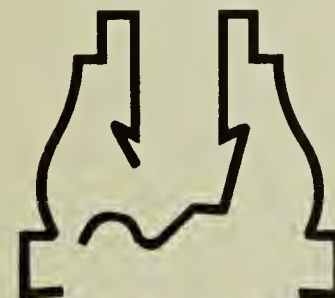
38
1½"x1⅛"
.040 GA.



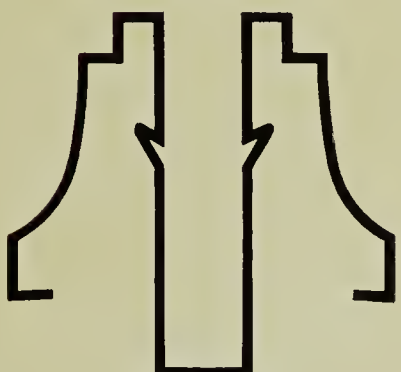
39 39 A
1⅝"x1⅛"
.040 GA.



47
1¼"x1⅛"
.040 GA.



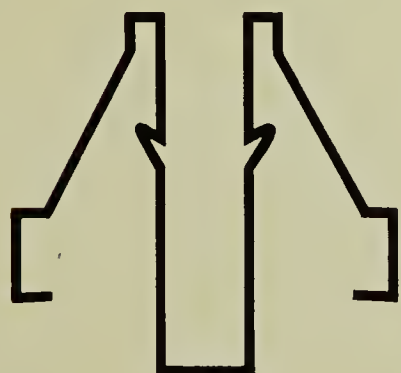
46 46 A
1⅝"x1⅛"
.040 GA.



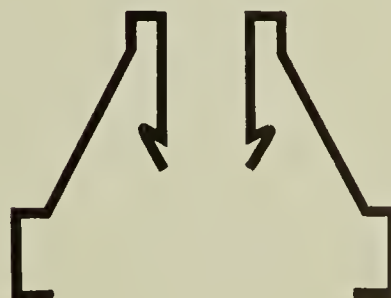
65
1½"x1⅛"
.040 GA.



66
1⅝"x1⅛"
.040 GA.



139
1½"x1⅛"
.040 GA.

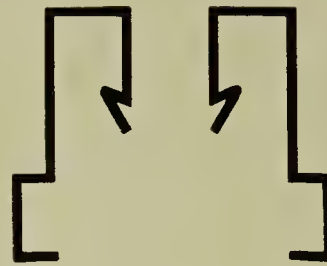


140
1⅝"x1⅛"
.040 GA.

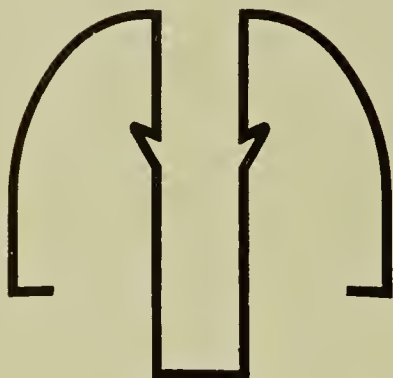
PANEL MOULDINGS
FULL SIZE



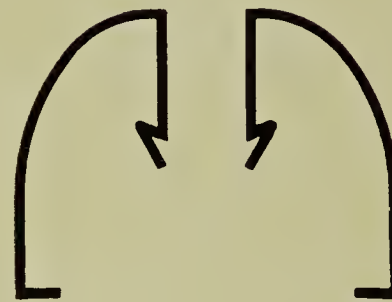
136
1 1/4" x 1"
.040 GA.



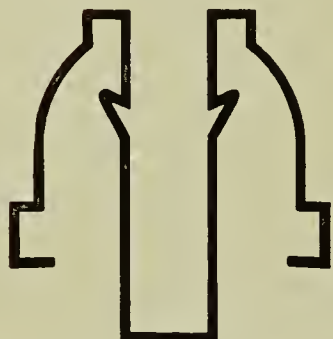
137
1 5/8" x 1"
.040 GA.



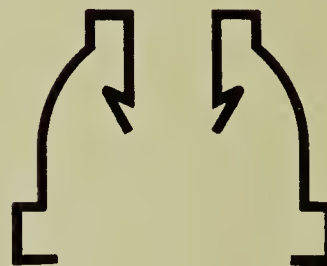
160
1 1/2" x 1 1/8"
.040 GA.



161
1 9/32" x 1 1/8"
.040 GA.



55
1 1/4" x 1"
.040 GA.



54
1 5/32" x 1"
.040 GA.



96
1 1/2" x 1 1/4"
.040 GA.

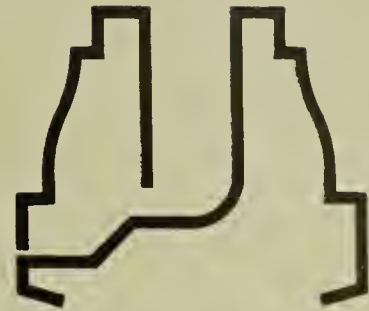


97
1 9/32" x 1 1/4"
.040 GA.

PANEL MOULDINGS
FULL SIZE

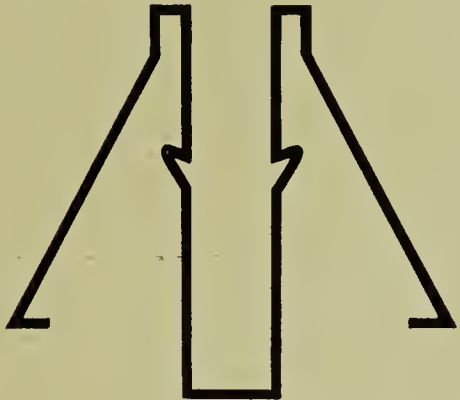


1
1 3/8" x 1 1/8"
.050 GA.



3
1 7/32" x 1 5/16"

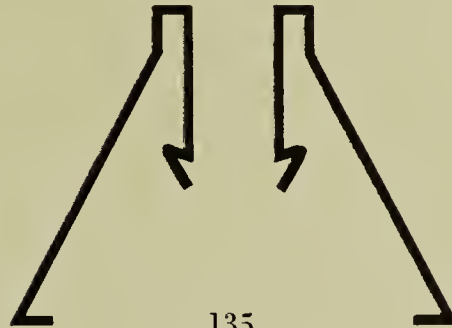
2
1 7/32" x 1 1/3"
.050 GA.



134
1 3/4" x 1 1/4"
.040 GA.



22
1 1/32" x 2 1/4"
.050 GA.



135
2 3/32" x 1 1/4"
.040 GA.

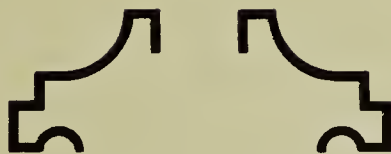


5
1 1/8" x 1 5/16"
.050 GA.



6
1 3/32" x 1 3/16"

4
1 3/32" x 1 5/16"
.050 GA.



74
1 9/32" x 2 1/16"
.040 GA.



162
1 1/4" x 1 1/8"
.040 GA.

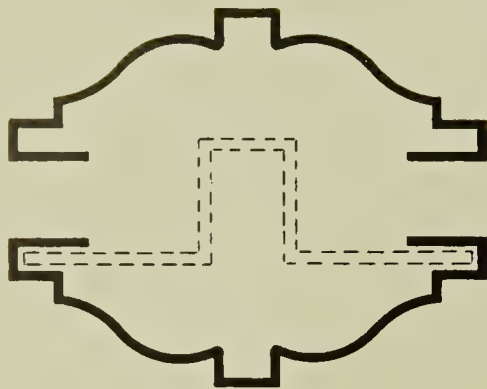


153

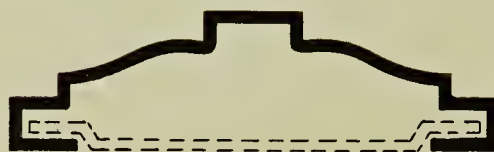
1 3/32" x 7/8"
.040 GA.

152

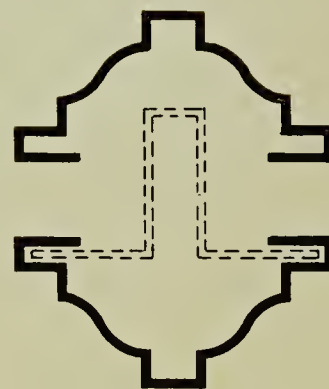
SPECIAL PANEL MOULDINGS
FULL SIZE



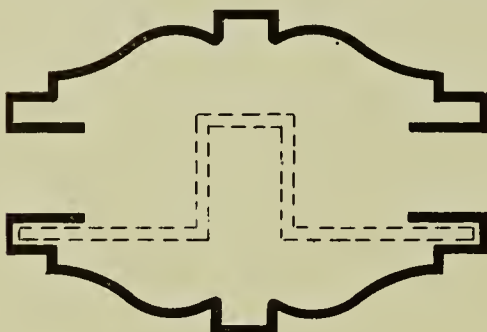
41
 $1\frac{7}{8}'' \times 1\frac{9}{32}''$
 .040 GA.



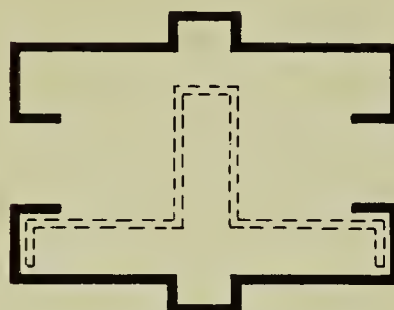
2 A
 $1\frac{5}{16}'' \times 1\frac{7}{32}''$
 .050 GA.



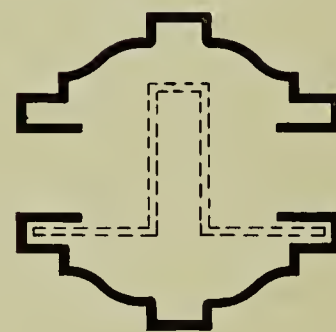
90
 $1\frac{1}{4}'' \times 1\frac{9}{32}''$
 .040 GA.



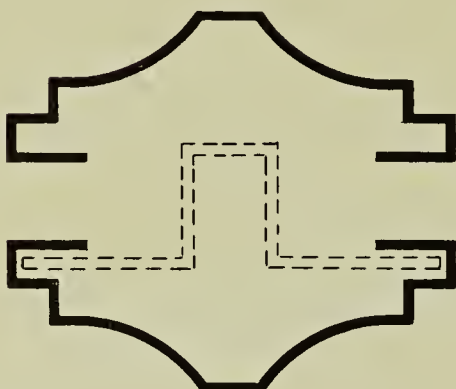
49
 $1\frac{7}{8}'' \times 1\frac{5}{32}''$
 .040 GA.



138
 $1\frac{17}{32}'' \times 1\frac{7}{16}''$
 .040 GA.



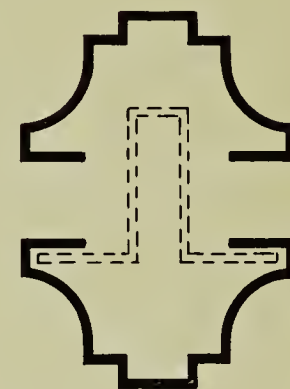
118
 $1\frac{9}{32}'' \times 1\frac{5}{32}''$
 .040 GA.



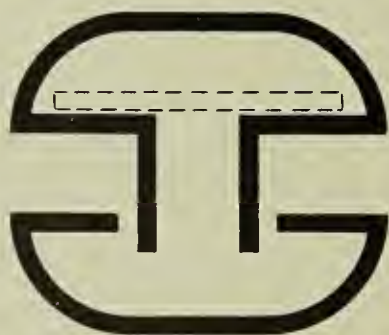
69
 $1\frac{3}{4}'' \times 1\frac{9}{32}''$
 .040 GA.



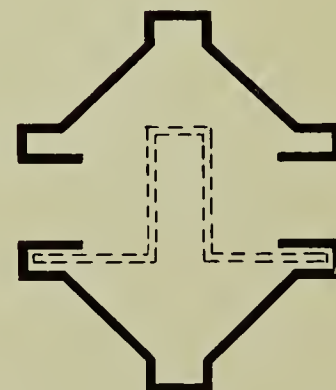
4 A
 $1\frac{9}{16}'' \times 1\frac{13}{32}''$
 .050 GA.



75
 $1\frac{1}{16}'' \times 1\frac{9}{32}''$
 .040 GA.

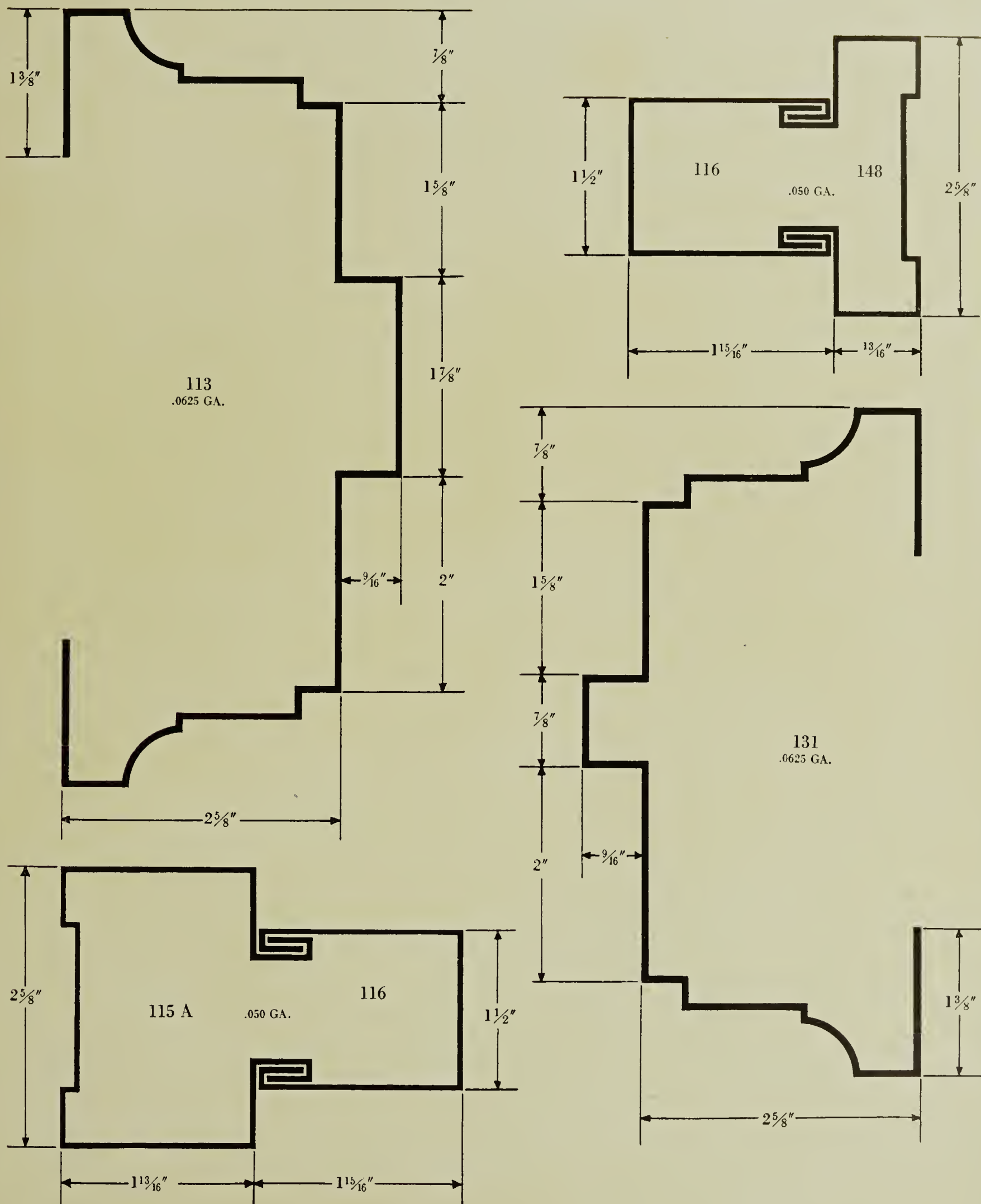


88 & 89
 $1\frac{1}{2}'' \times 1\frac{1}{2}''$
 .073 GA.



141
 $1\frac{1}{4}'' \times 1\frac{9}{32}''$
 .040 GA.

MUNTIN AND ASTRAGAL MOULDINGS FULL SIZE



FRAMES AND TRANSOM BARS
 THREE-QUARTER SIZE



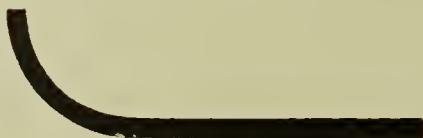
86
 $\frac{1}{2}" \times 1\frac{1}{16}"$
 .078 GA.



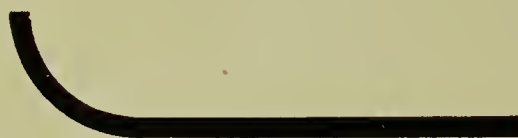
82
 $\frac{1}{2}" \times 1\frac{1}{32}"$
 .078 GA.



84
 $\frac{1}{2}" \times 1\frac{1}{8}"$
 .078 GA.



83
 $\frac{1}{2}" \times 1\frac{1}{8}"$
 .078 GA.



85
 $\frac{1}{2}" \times 2"$
 .078 GA.



15
 $\frac{7}{64}" \times 1\frac{1}{16}"$
 .050 GA.



33
 $\frac{3}{4}" \times \frac{3}{4}"$
 .050 GA.



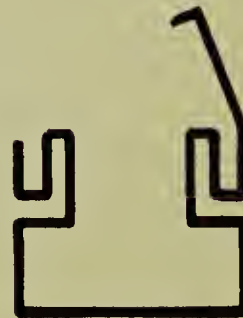
24
 $\frac{3}{16}" \times 1\frac{1}{32}"$
 .040 GA.



36
 $1\frac{1}{16}" \times 2\frac{29}{32}"$
 .040 GA.



58
 $2\frac{5}{32}" \times 1\frac{1}{16}"$
 .050 GA.



37
 $1\frac{1}{16}" \times 2\frac{29}{32}"$
 .040 GA.

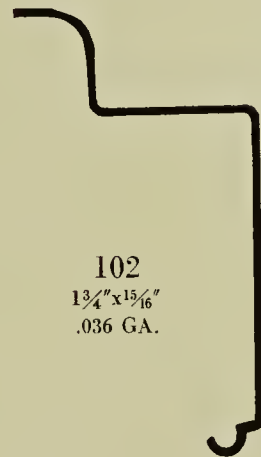
MISCELLANEOUS SHAPES FULL SIZE



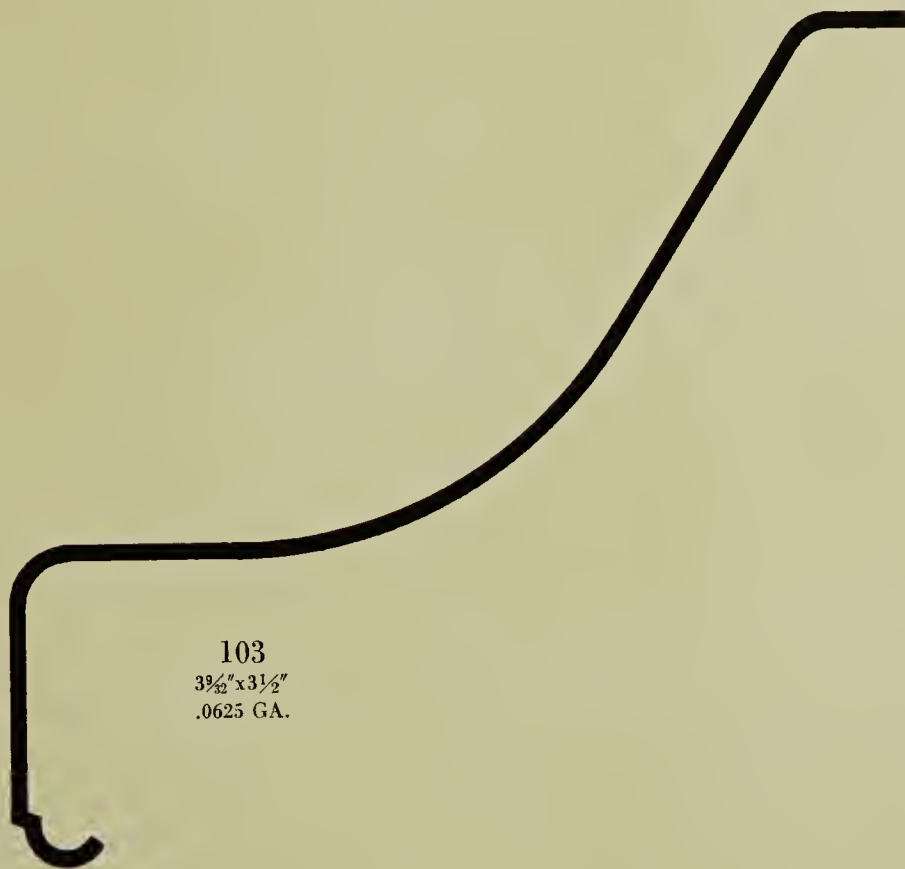
108
 $2\frac{7}{32}" \times 1\frac{5}{8}"$
.050 GA.



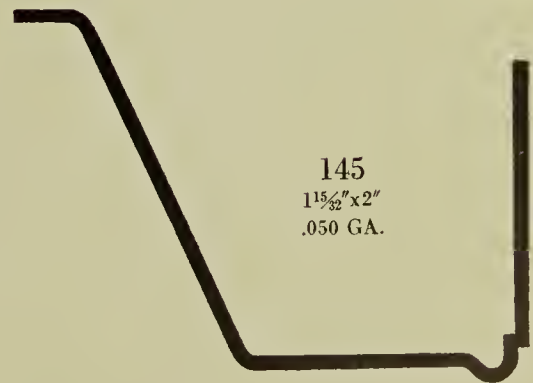
125
 $1\frac{5}{8}" \times 1\frac{1}{16}"$
.040 GA.



102
 $1\frac{3}{4}" \times 1\frac{5}{16}"$
.036 GA.



103
 $3\frac{9}{32}" \times 3\frac{1}{2}"$
.0625 GA.

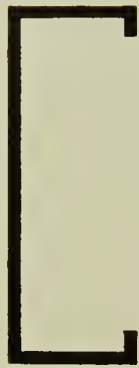


145
 $1\frac{15}{32}" \times 2"$
.050 GA.

MISCELLANEOUS SHAPES
FULL SIZE



42
 $1\frac{11}{16}" \times 1\frac{1}{2}"$
.050 GA.



50
 $1\frac{13}{32}" \times 1\frac{1}{2}"$
.050 GA.



10
 $1\frac{15}{32}" \times 1\frac{1}{4}"$
.050 GA.



14
 $1\frac{1}{16}" \times 3\frac{3}{16}"$
.050 GA.



51
 $1\frac{7}{32}" \times 1\frac{7}{16}"$
.036 GA.



56
 $1\frac{5}{16}" \times 5\frac{5}{8}"$
.040 GA.



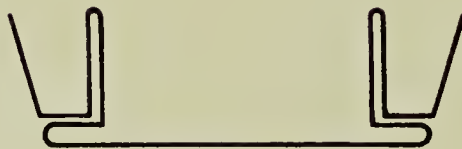
57
 $1\frac{1}{16}" \times 5\frac{5}{8}"$
.040 GA.



43
 $1\frac{15}{32}" \times 7\frac{7}{16}"$
.036 GA.



62
 $1\frac{15}{16}" \times 1\frac{5}{16}"$
.050 GA.



78
 $1\frac{7}{32}" \times 1\frac{25}{32}"$
.0187 GA.



61
 $\frac{3}{4}" \times 3\frac{3}{8}"$
.050 GA.



17
 $\frac{7}{8}" \times 1\frac{1}{2}"$
.050 GA.



150
 $\frac{1}{2}" \times 1\frac{3}{4}"$
.050 GA.

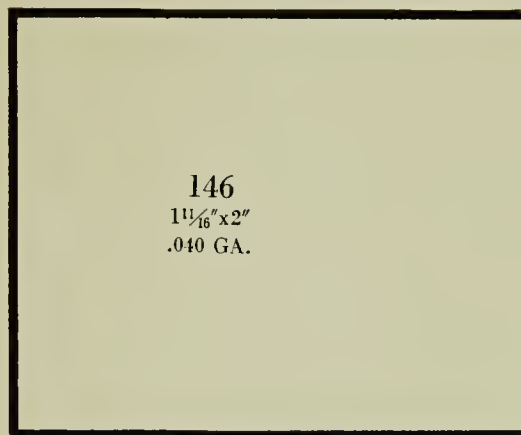


76
 $\frac{5}{8}" \times 1\frac{15}{16}"$
.040 GA.

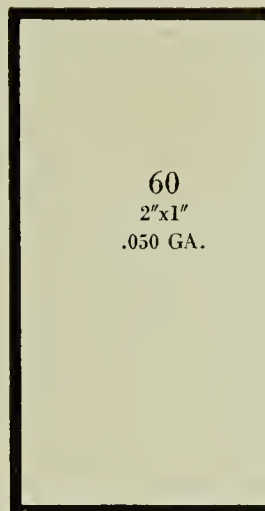


119
 $\frac{9}{16}" \times 1\frac{1}{8}"$
.040 GA.

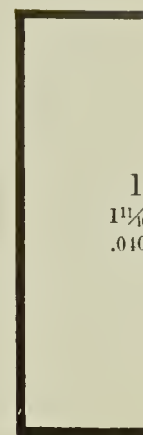
MISCELLANEOUS SHAPES
FULL SIZE



146
 $1\frac{11}{16}" \times 2"$
.040 GA.



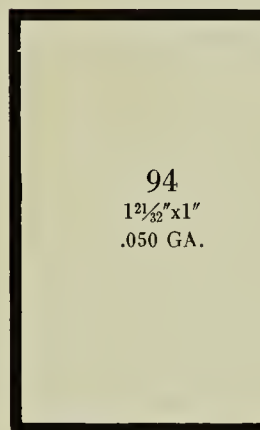
60
 $2" \times 1"$
.050 GA.



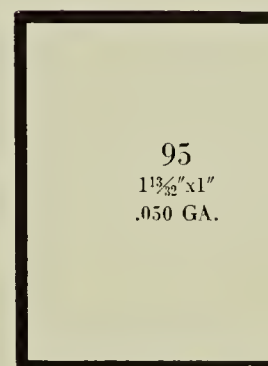
147
 $1\frac{11}{16}" \times 1\frac{1}{2}"$
.040 GA.



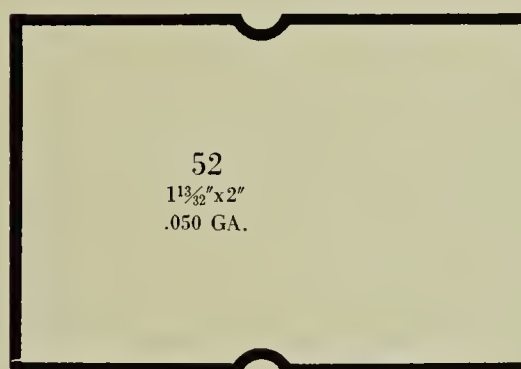
44
 $1\frac{13}{32}" \times 2"$
.050 GA.



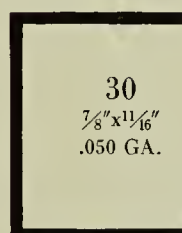
94
 $1\frac{13}{32}" \times 1"$
.050 GA.



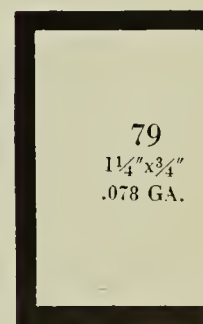
95
 $1\frac{13}{32}" \times 1"$
.050 GA.



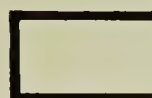
52
 $1\frac{13}{32}" \times 2"$
.050 GA.



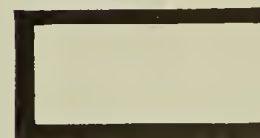
30
 $\frac{7}{8}" \times 1\frac{1}{16}"$
.050 GA.



79
 $1\frac{1}{4}" \times \frac{3}{4}"$
.078 GA.



32
 $\frac{3}{8}" \times \frac{9}{16}"$
.040 GA.



87
 $\frac{1}{2}" \times 1"$
.078 GA.

MISCELLANEOUS SHAPES
FULL SIZE

GENERAL DESCRIPTION OF HOLLOW STEEL SWING DOORS AND TRIM



Materials—Materials used are the best of their respective kinds. Steel is of the highest grade commercial furniture stock of U. S. standard gauge.

Workmanship—All work is executed by skilled mechanics and is of the finest grade; neat in appearance and free from defects.

Doors and Sash (Metal Panel Type)—Panels are constructed of two 18 gauge steel plates separated by heat retarding filler. Panel mouldings, cold drawn to profile, are fitted to panels, mitred and welded at corners, forming a continuous frame around panels.

Stiles and rails are formed of 18 gauge steel and continuously interlocked to panel mouldings. Stiles are fitted to rails, reinforced and welded at joints. Stiffener channels extending full width are welded inside the doors at top and bottom.

Compressed cork is provided in stiles and rails of doors to eliminate metallic sound.

Doors and Sash (Flush Type)—Doors and sash are constructed of two 18 gauge steel plates locked together with special interlocking members welded to plates. Members are spaced not more than 6" apart and extend full height of doors and sash.

Continuous reinforcements and stiffen-

er channels are welded inside the doors and sash at top and bottom, and in both sides.

Compressed cork is placed in doors to eliminate metallic sound.

Doors and Sash (Glass Panel Type)—Glass panels are held in place by removable mouldings which are secured to stationary mouldings with oval head machine screws. Mouldings are cold drawn to profile and are made into frames with corners mitred and welded. Stiles and rails are interlocked to stationary mouldings as described under "Metal Panel Type."

When doors are "Flush Type," stationary mouldings are interlocked to plates in a similar manner.

Muntins are constructed of cold drawn interlocking shapes fitted and welded to panel mouldings.

Where mirrors occur, 18 gauge steel plates are provided for backing up.

Stall Doors—Stiles and rails are formed of 20 gauge steel and continuously interlocked to 16 or 18 gauge steel panels. Stiles are fitted to rails and welded at joints.

Astragals—Astragals are of cold drawn interlocking shapes welded to door stiles.

Grilles—Grilles are of 14 gauge perforated steel secured in doors in the same manner as metal or glass panels. When grilles are desired in bottom rails they are usually formed as a part of the rail.

Louvres (Stationary Type)—Louvres, constructed of specially formed 18 gauge steel members, are secured in doors in a substantial manner.

Ventadoors, Panelouvres and Servidors—Doors are prepared to receive these products which are usually furnished under separate contract.

Ventadoors and Panelouvres are ordinarily delivered to our factory completely finished, and installed in the doors by us.

Servidors are usually delivered direct to the building and installed in the doors by Servidor contractor.

Glass—Glass, usually furnished and installed under separate contract, is set in rubber inserts and putty held in place by removable moulding or channel frames.

Mirrors are set in the same manner with exception that they are backed up with felt.

Frames (Rough Buck and Cabinet Jamb Type)—Bucks are formed of 12 or 14 gauge steel, welded at corners, provided with anchors for securing to walls and clip angles at bottom for fastening to floor.

When bucks are shipped "Knocked down," side members are provided with tenons for securing to heads.

Jambs, formed of 16 or 18 gauge steel, are secured to steel bucks by machine

screws, and to wood bucks, which are usually furnished and erected under separate contract, by wood screws.

Stationary doors and sash, or glass panels, are retained by removable cold drawn moulding or channel frames, secured to jambs by oval head machine screws.

Frames (Combination Buck and Jamb Type)—Frames are formed of 12, 14 or 16 gauge steel, mitred or coped and welded at corners. Anchors are provided for securing frames to walls and clip angles at bottom for fastening to floor.

Glass panels, or stationary doors and sash, are held in place by removable cold drawn moulding or channel frames, secured to frames by oval head machine screws.

Transom Bars and Mullions (Rough Buck and Cabinet Jamb Type)—Bucks are formed of 12 or 14 gauge steel, welded to frames or secured by concealed clip angles and screws as conditions warrant.

Jambs are formed of 16 or 18 gauge steel, secured to steel bucks by machine screws, or to wood bucks, which are usually furnished and erected under separate contract, by wood screws.

Transom Bars and Mullions (Combination Buck and Jamb Type)—Transom bars and mullions are formed of 12, 14, 16 or 18 gauge steel, welded to frames or secured by concealed clip angles and screws as conditions warrant.

Weatherstrips—Exterior openings are made weather-tight at sides and heads

by felt, rubber or spring bronze weatherstripping, and at the bottom by bronze interlocking shapes or specially formed steel strips.

Sills—Sills are close grain gray iron or bronze castings with non-slip surfaces, securely anchored to floors.

Casings—Casings are of 18 gauge cold drawn shapes with corners mitred, welded, and secured to frames by concealed fastenings or oval head machine screws.

Scribe Mouldings—Mouldings are cold drawn of 18 gauge steel, mitred or coped at corners, and secured to frames by oval head machine screws.

Plinths—Plinths are formed of 18 gauge steel, secured to frames by concealed fastenings or oval head machine screws.

Window Trim—Casings and scribe mouldings are constructed as previously described and secured to wood grounds by concealed fastenings or wood screws. Mullions are formed or cold drawn of 18 gauge steel, secured in place by concealed fastenings or oval head machine screws.

Stools are formed of 16 or 18 gauge steel, reinforced with channels, and welded to aprons which are cold drawn of 18 gauge steel. Returns are mitred and welded. Stools and aprons are secured to window sills and wood grounds by concealed method.

Wood grounds are usually furnished and erected under separate contract.

Mouldings—Chair rail, base, picture, wire, and cornice mouldings are of 18 gauge cold drawn shapes, secured by

concealed fastenings to wood grounds, which are usually furnished and erected under separate contract.

Provisions for Hardware—All work is mortised, reinforced, drilled and tapped at the factory to receive hardware, except that frames are usually drilled and tapped for surface hardware at the building by the contractor erecting the doors.

Combination type frames are provided with cover boxes in back of all hardware cutouts.

Fire Underwriters' Labels—Labels can be provided when products conform to Fire Underwriters' Requirements.

Prime Finish (Doors and Sash)—Before assembling, metal panels are painted on the inside. After assembling, all oil, dirt and rust are removed. Doors and sash are thoroughly coated on the inside and outside with rust resisting paint by a dip process, and then baked. Exposed surfaces are filled where required, each coat baked and sanded. Priming coat of paint is then applied and baked.

Prime Finish (All Other Work)—After assembling, all oil, dirt and rust are removed. Exposed surfaces are filled where required, each coat baked and sanded. Priming coat of paint is then applied to all surfaces, both inside and outside, and baked.

Plain Enamel Finish—Prime coat is thoroughly sanded, after which three coats of enamel of a color as selected are applied to all exposed surfaces. Each coat is baked and rubbed, the

final coat being rubbed to an egg-shell gloss.

Grained Finish—Prime coat is thoroughly sanded, after which all exposed surfaces are hand grained to match sample selected, and then baked. Two coats of finishing varnish are then applied, each coat baked and rubbed, the final coat being rubbed to an egg-shell gloss.

Crating—The finished products are substantially crated to guard against damage in transit.

Combination type frames, when finished in baked enamel, are protected by oiled paper, and crated individually. Crating is not removed until after walls have been plastered.

Erection—All work is erected plumb and true by skilled mechanics. Rough bucks and frames are set and braced in position before partitions are built. The doors, cabinet jambs, casings, etc., are erected after plastering has been completed and the floors are broom clean.

GENERAL DESCRIPTION OF HOLLOW STEEL FRAMES, MULLIONS AND TRANSOM BARS

[*Rolled Type*]

Materials—Steel is of the highest grade commercial furniture stock of U. S. standard gauge.

Workmanship—All work is executed by skilled mechanics and is of the finest quality; neat in appearance and free from defects.

Frames—Frames are cold rolled of 16 gauge steel. The jamb portions of side members are coped and tenoned to heads, while casing portions are mitred and acetylene welded.

Frames are provided with wire anchors for securing to walls, and clip angles at bottom for fastening to floor. Special anchoring arrangement is provided for frames in plaster, wood stud or Simplex partitions.

Glass panels are retained by removable cold drawn channels coped at corners and secured to frames by oval head machine screws.

Transom Bars and Mullions—Transom bars and mullions are cold drawn of 18 gauge steel secured to frames by concealed clip angles and screws.

Mullions are provided with channels for fastening to floor.

Scribe Mouldings—Mouldings are cold drawn of 18 gauge steel, mitred or coped at corners and secured to frames by oval head machine screws.

Finishing—After assembling, all oil, dirt and rust are removed. Where required, exposed surfaces are filled and frames then receive one dip or spray coat of red oxide primer. Frames for exterior openings receive two coats of primer. Final finish is applied at the building by painter contractor.

Provisions for Hardware—All work is properly mortised, reinforced, drilled and tapped for the reception of mortise hardware and reinforced where necessary for surface hardware. Drilling and tapping for surface hardware is done at the building by the contractor erecting the doors.

Cover boxes are provided in back of all hardware cut-outs.

Erection—Frames are set by skilled mechanics and braced in position until partitions are built. After walls have been erected and before the mortar has set, each frame is checked to see that it is plumb and true.

ELEVATOR ENCLOSURES



THE Metal Door & Trim Co. have devoted considerable time and thought to the development of hollow steel elevator enclosures—not only from the standpoint of appearance, stability, and protection against fire—but from that of smooth and efficient operation as well. Noise has been reduced to a minimum.

Doors, amply reinforced for hardware and operating equipment, are designed solely for use in connection with elevator enclosures. They are exceptionally sturdy (Stiles and Rails of 12 gauge steel) to withstand the hard usage to which elevator doors are subjected.

Hanger Housings, of heavy steel plate, are supported—independent of the walls—by structural angles extending from sill to ceiling. Angles also act as supports for door closers and pneumatic operators.

Frames, formed of heavy steel—with welded corners—are secured to hanger housings and sills. These serve only to trim the openings; the weight of the doors is carried by the hanger housings and structural angles. This type of construction is unusally rigid and eliminates sagging and cracking of walls—usually prevalent in ordinary frame construction.

Since smoothness and efficiency of operation depend in a great measure on the door-operating hardware and sills, and the manner in which they are installed, we recommend that these items be included in our contract. Incidentally this practice is more satisfactory to all concerned, inasmuch as it eliminates division of responsibility.

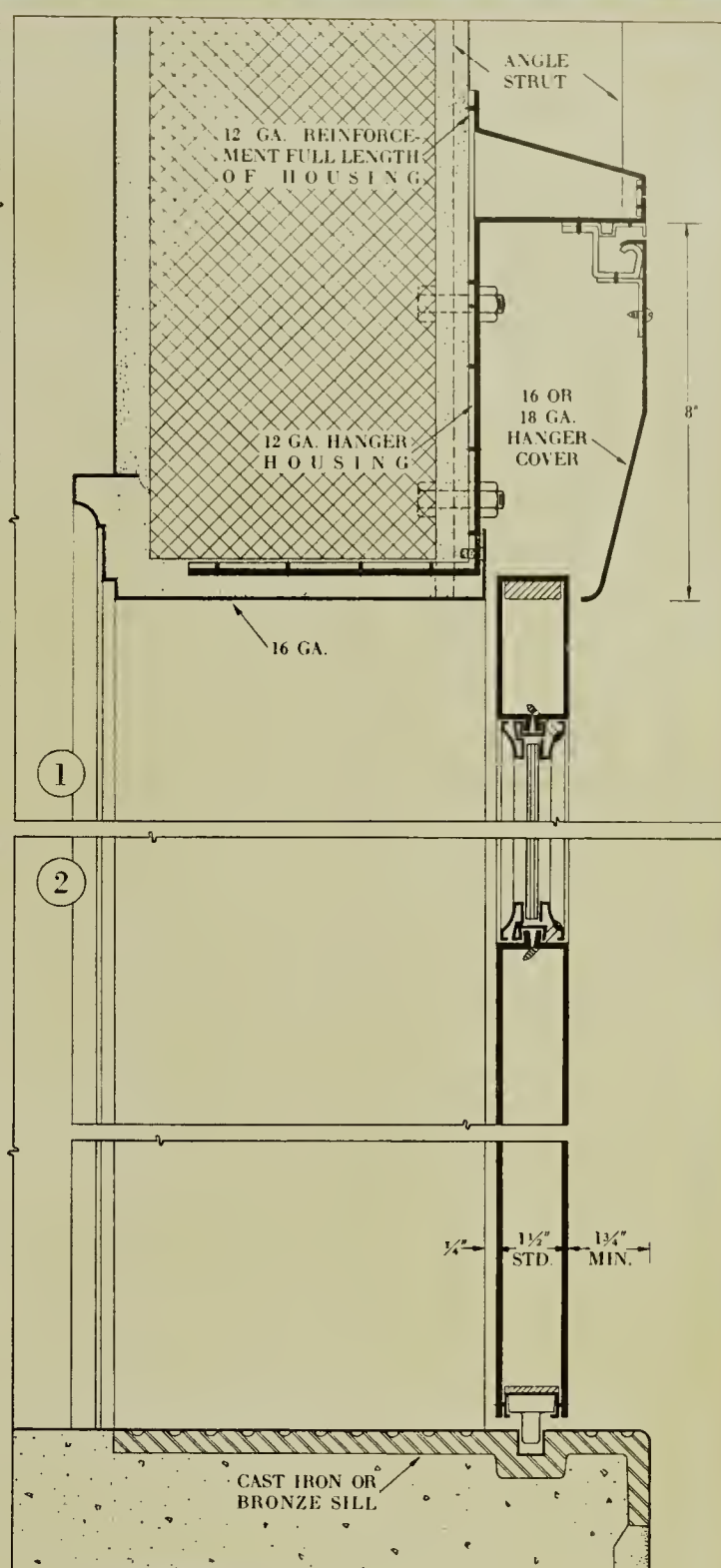
STYLES OF ELEVATOR ENCLOSURES



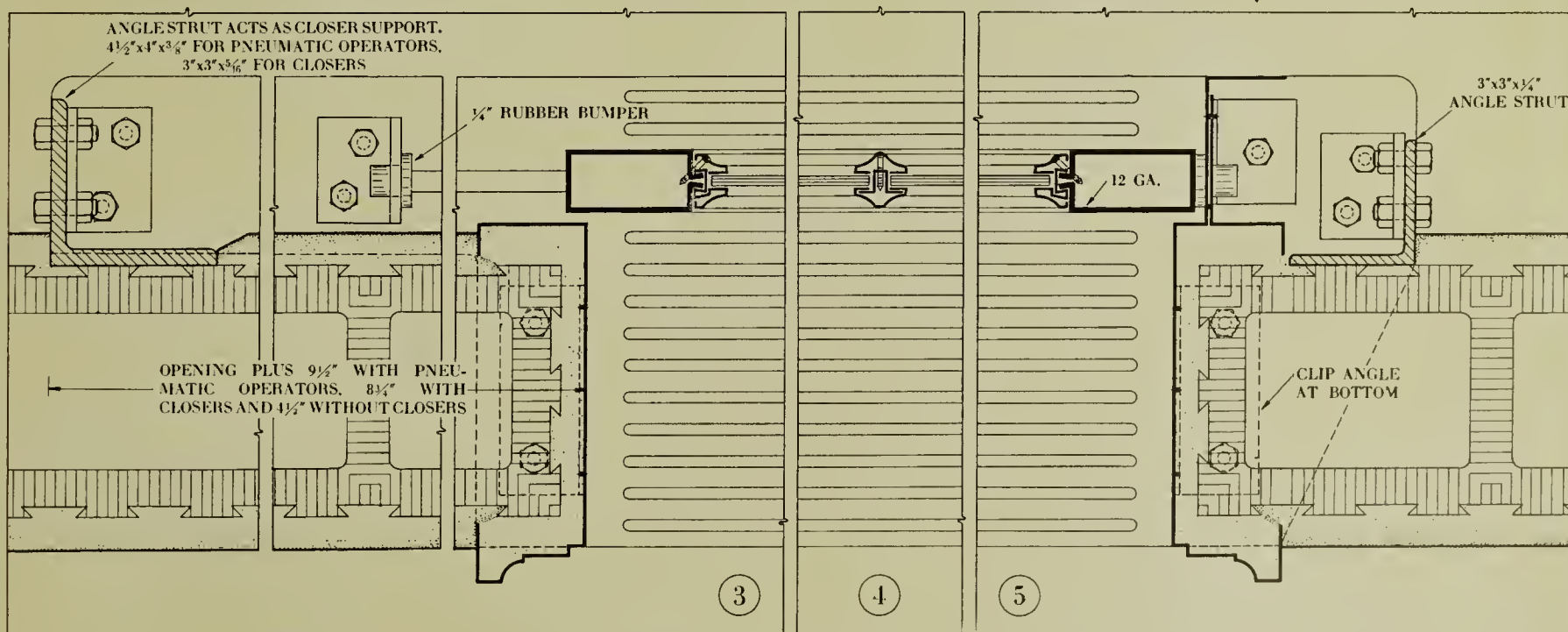
ILLUSTRATIONS cover all styles of enclosures in general use. Suitable provisions are made for door operating hardware.

Enclosures are standard in construction and can be had in any width and height, and to suit any wall thickness.

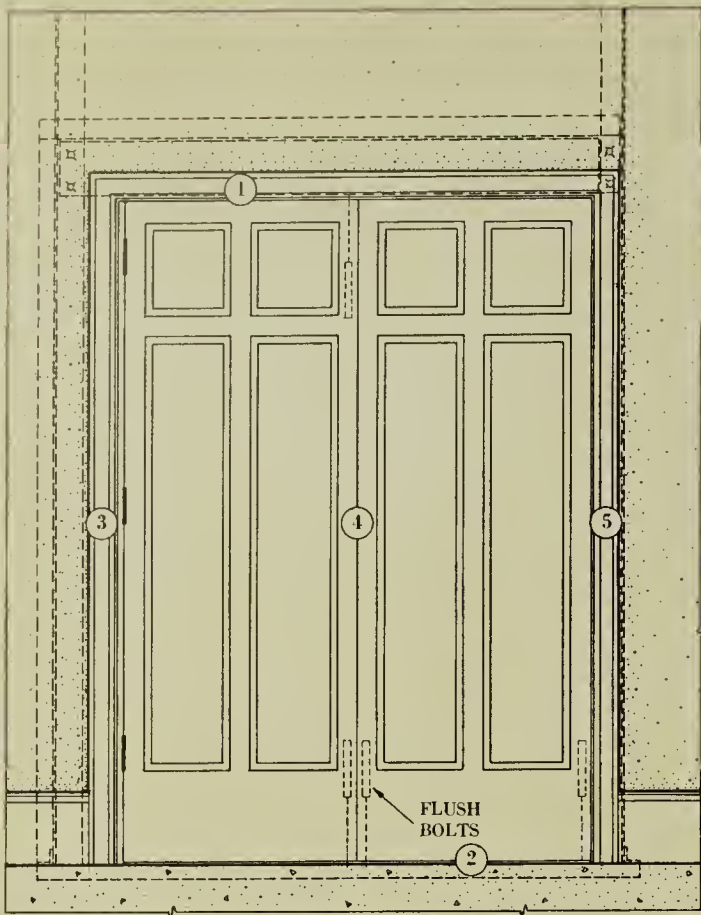
These enclosures can be supplied with doors, frames, sills and casings in any of the designs and profiles shown in their respective sections.



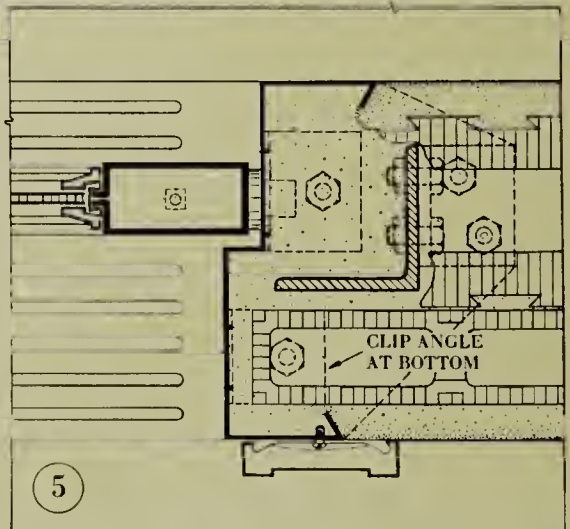
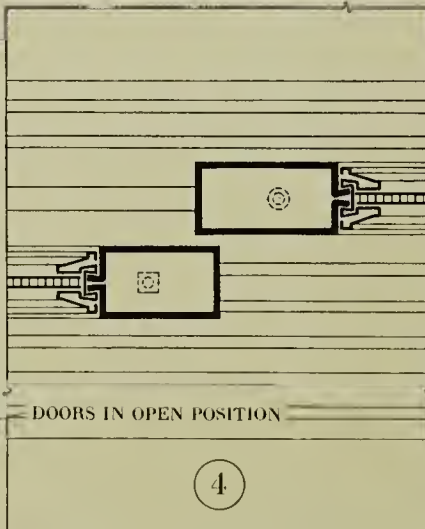
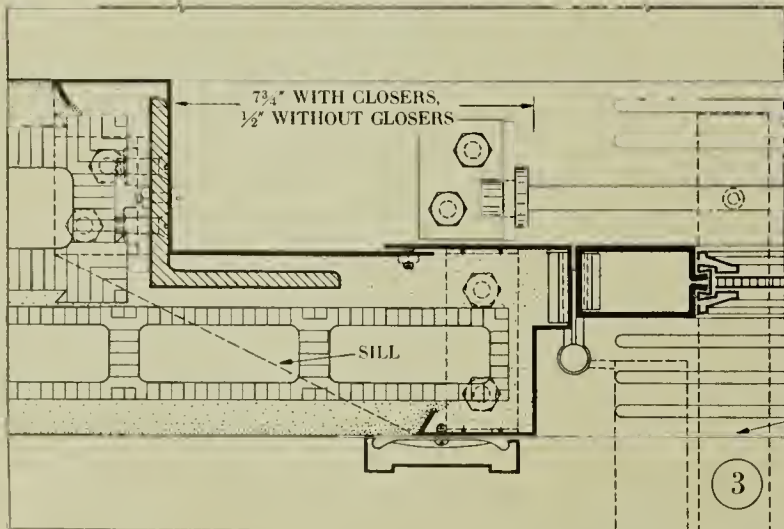
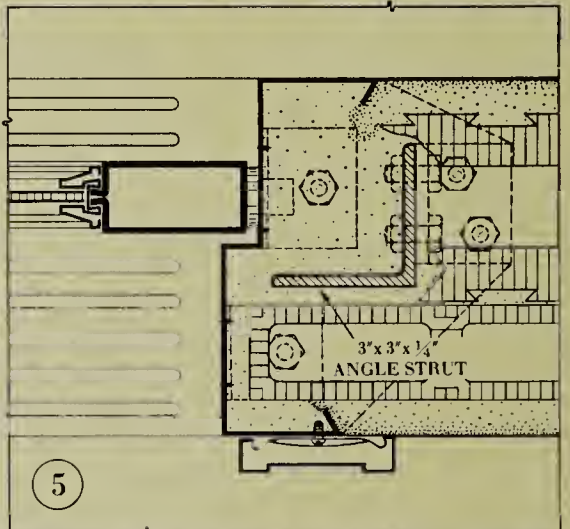
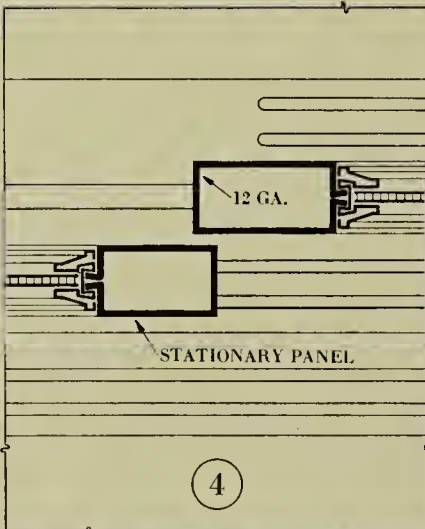
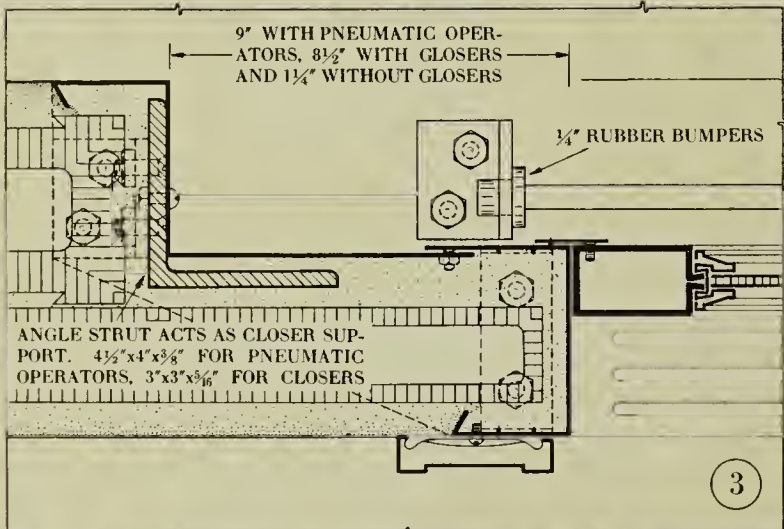
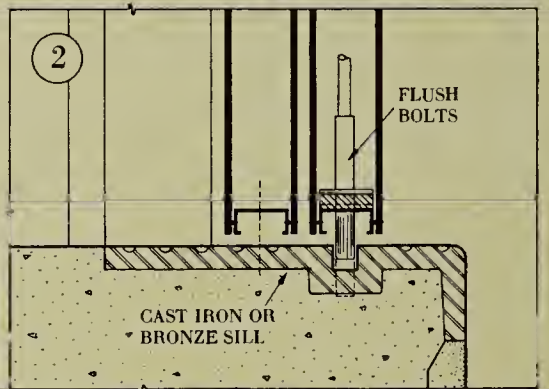
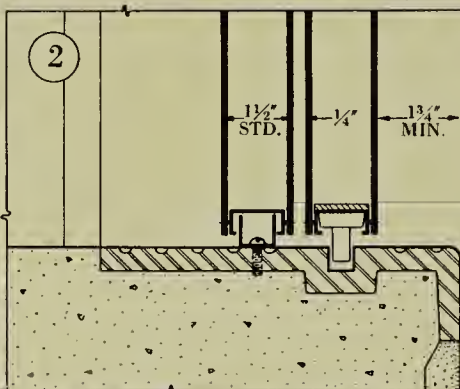
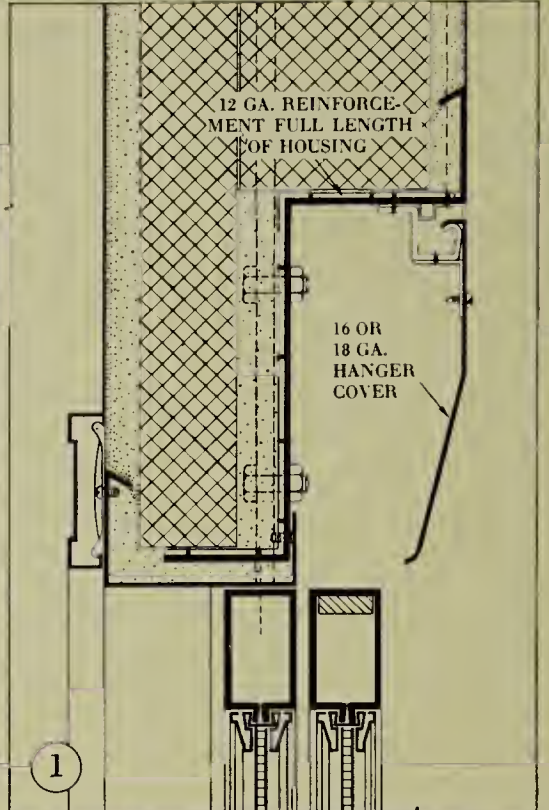
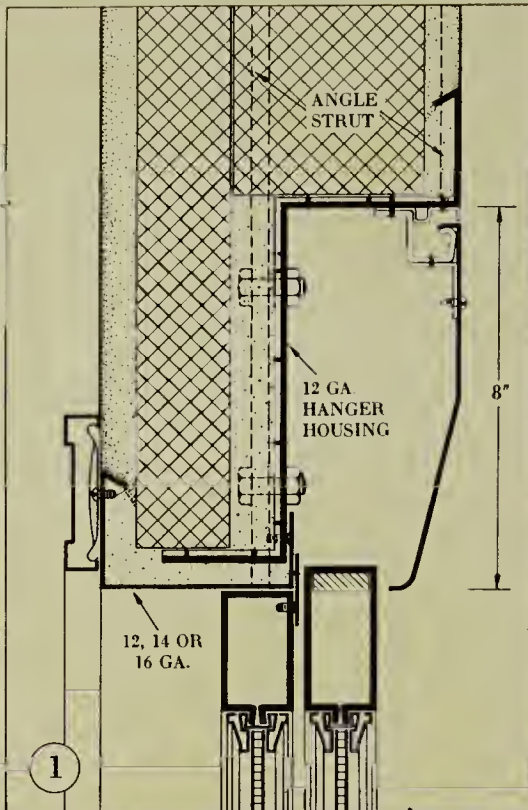
When sufficient space is not available to permit mounting the pneumatic operators or closers in back of doors as here detailed, these devices can be placed between the doors and cab as illustrated under “Hardware for Elevator Enclosures.”



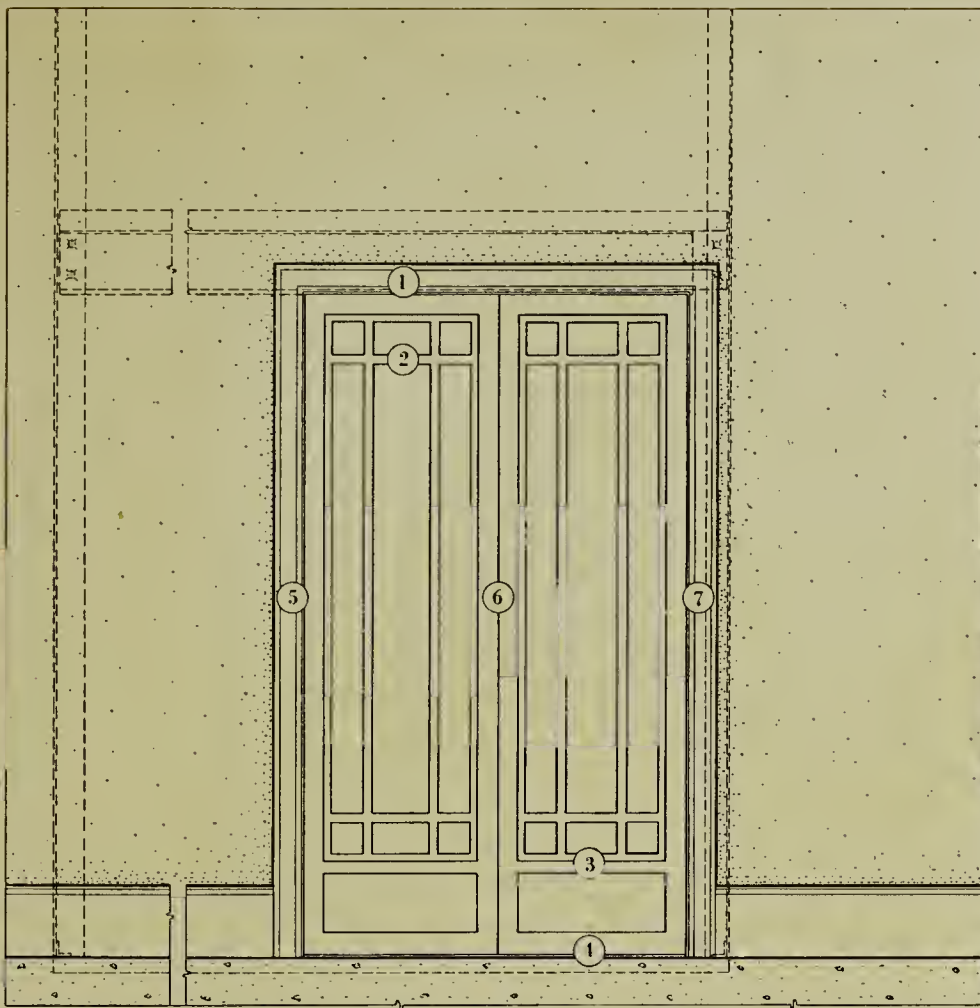
SINGLE-SPEED UNIT
SCALE $\frac{3}{16}$ IN. = 1 IN.



SOME makes of pneumatic operators require greater clearances than shown. Heavy duty sheave type hangers require not less than 11" headroom. When bar locks are used, hanger covers must be made straight.

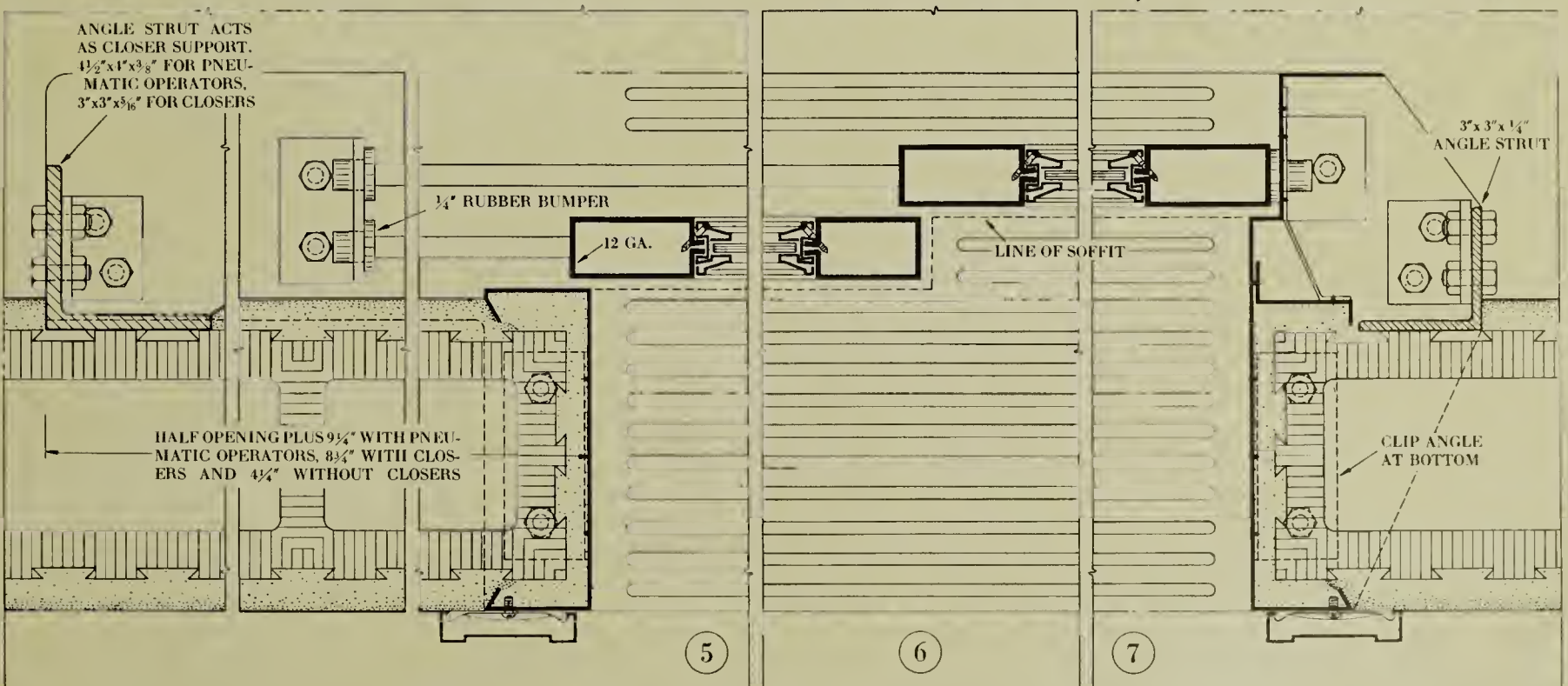
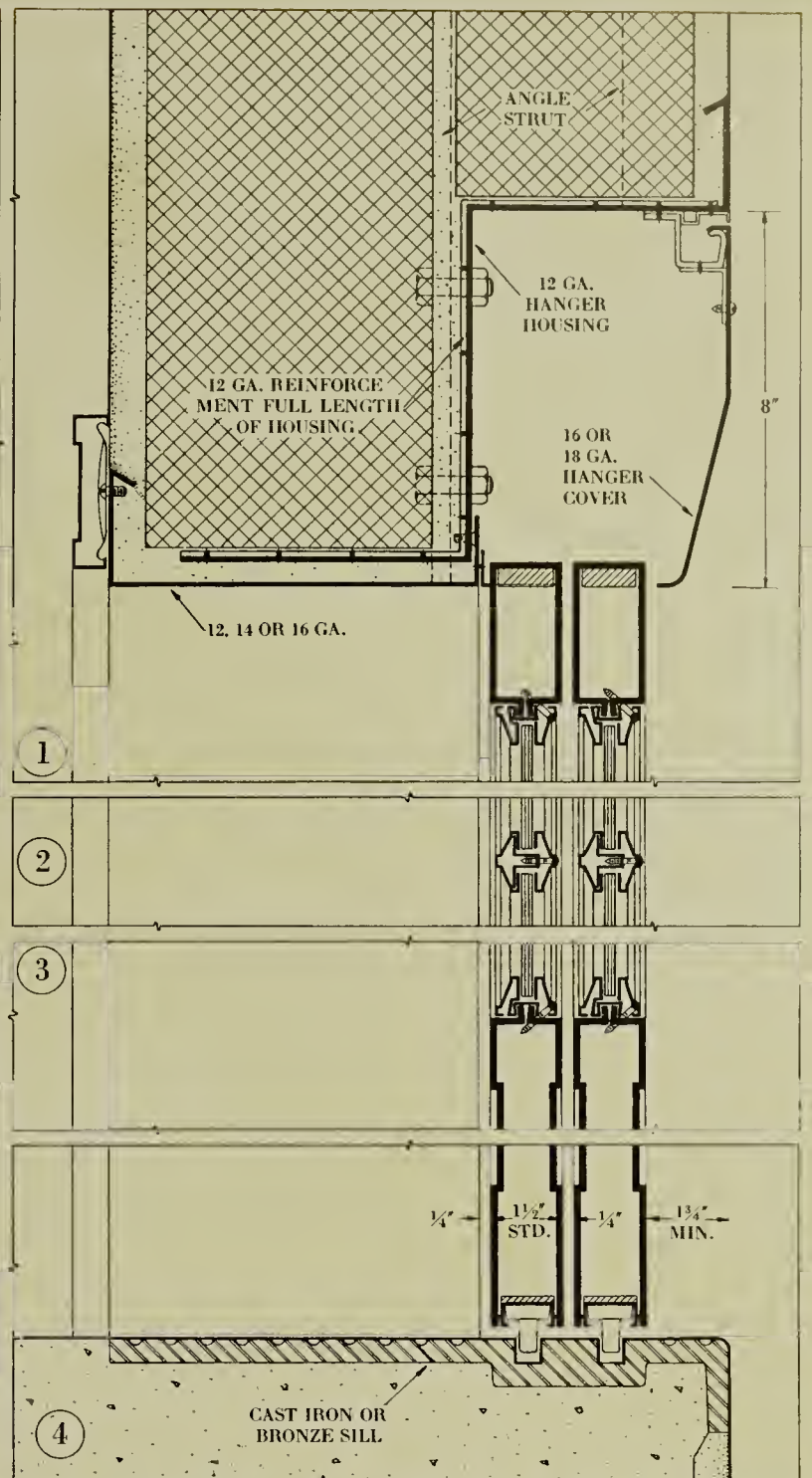


SINGLE-SPEED UNITS WITH STATIONARY AND HINGED PANELS
SCALE $\frac{3}{16}$ IN. = 1 IN.

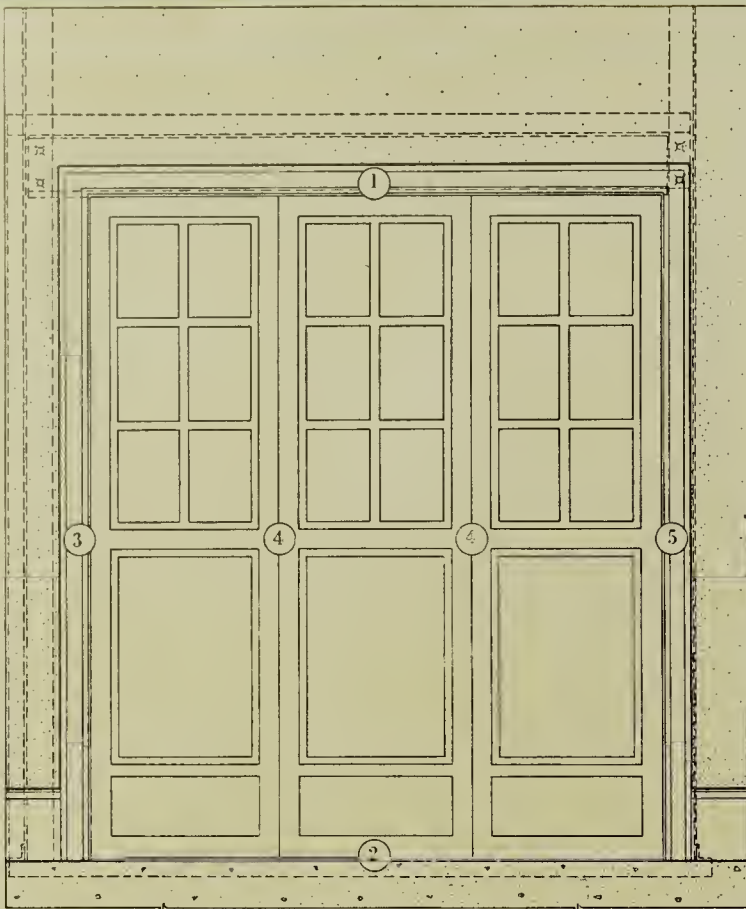


SOME makes of pneumatic operators require greater clearances than shown. Heavy duty sheave type hangers require not less than 11" headroom. When bar locks are used, hanger covers must be made straight.

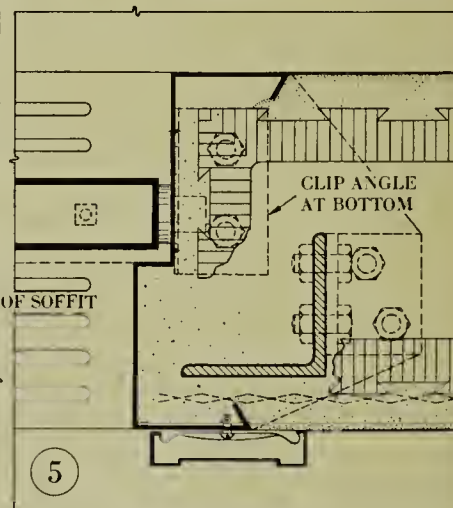
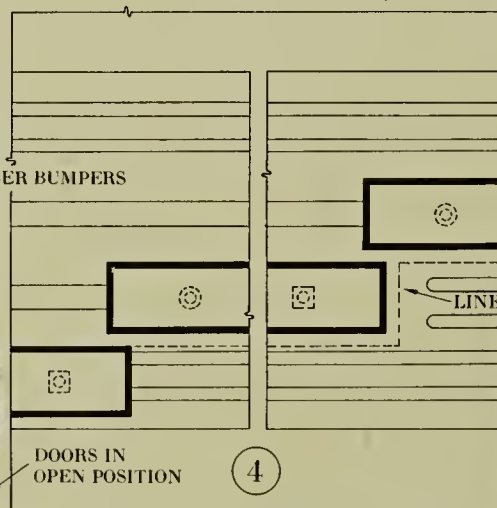
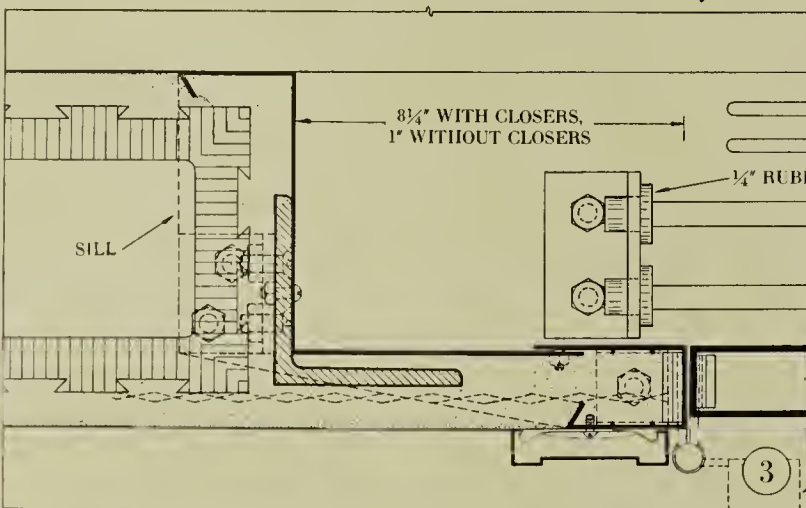
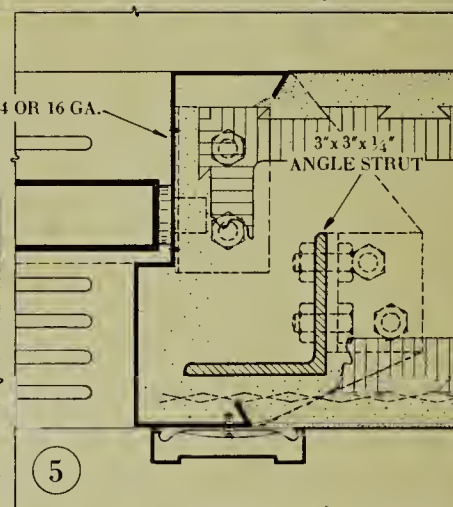
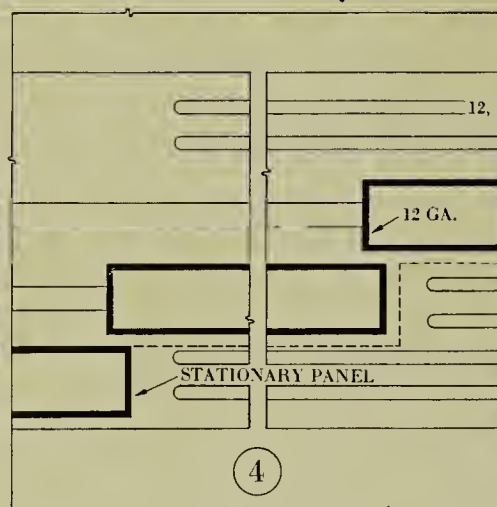
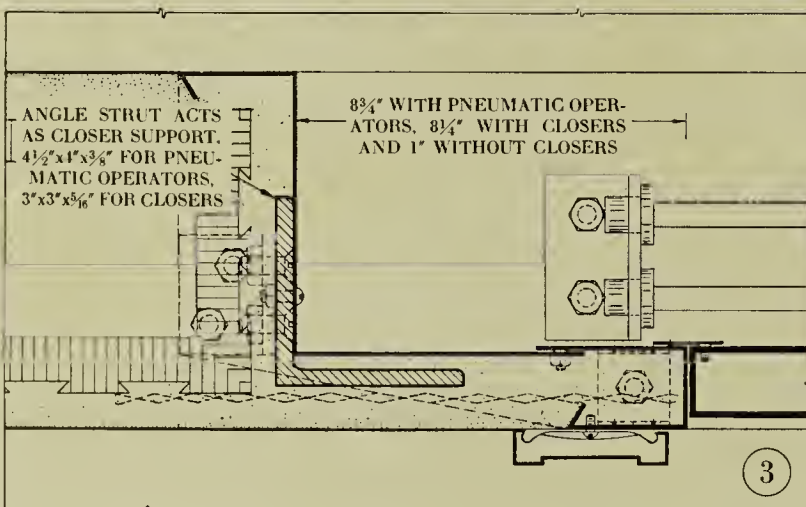
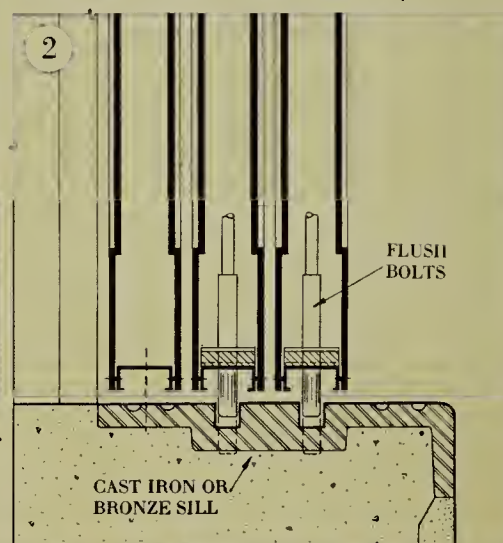
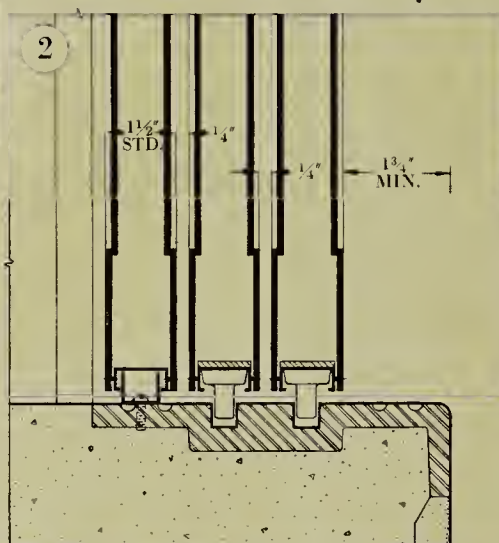
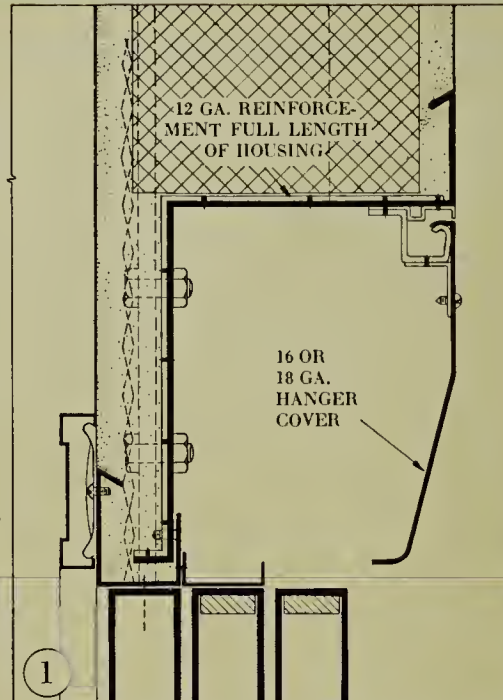
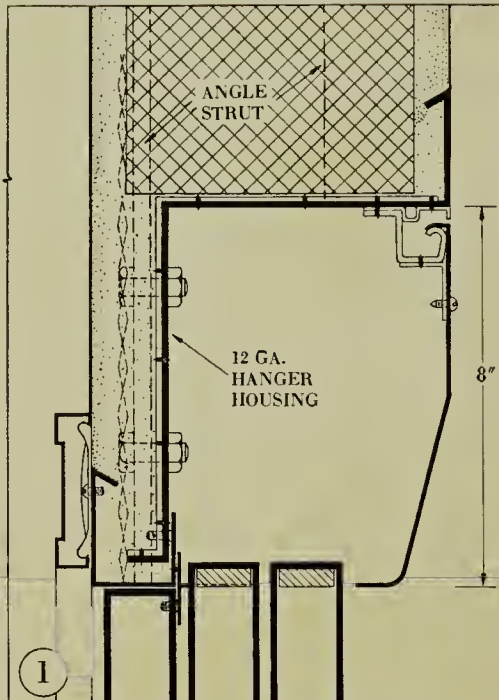
When sufficient space is not available to permit mounting the pneumatic operators or closers in back of doors as here detailed, these devices can be placed between the doors and cab as illustrated under "Hardware for Elevator Enclosures."



TWO-SPEED UNIT
SCALE $\frac{3}{16}$ IN. = 1 IN.

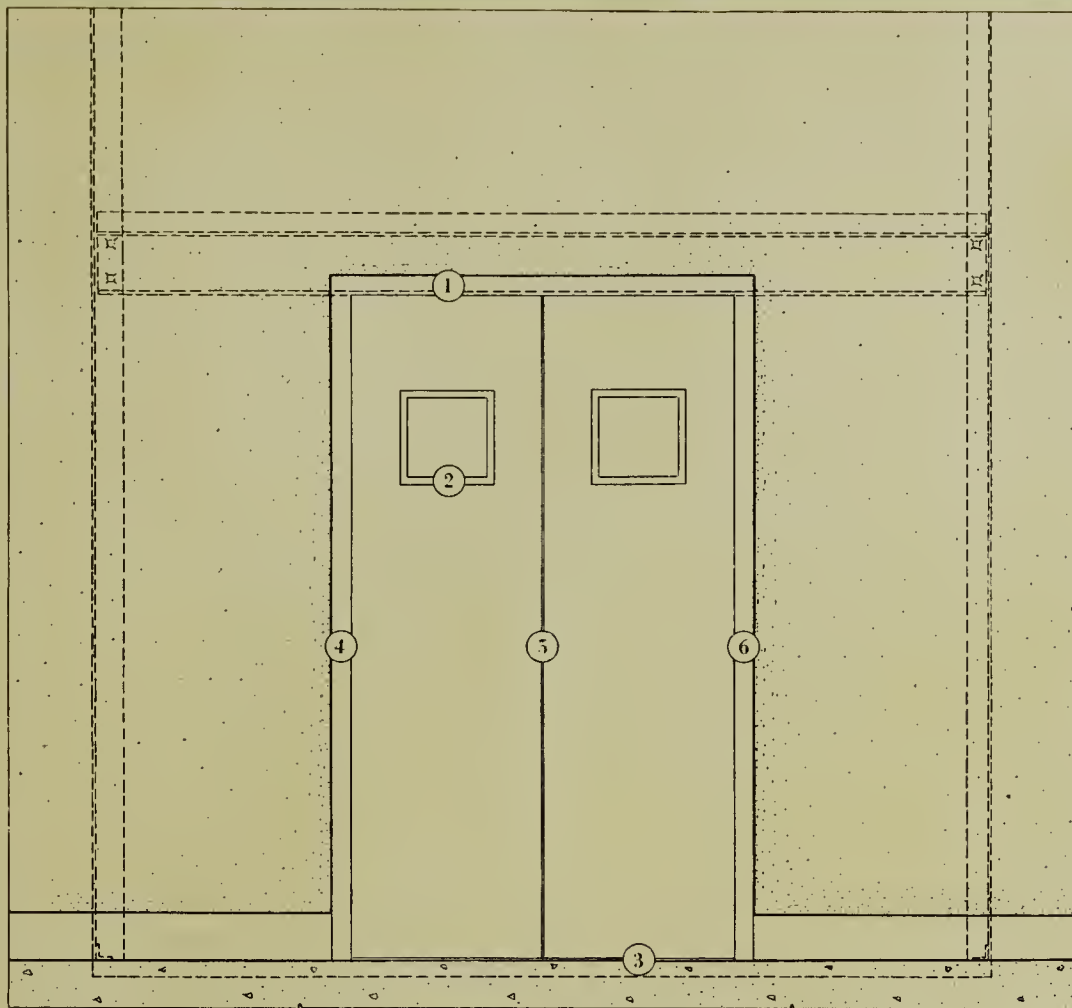


SOME makes of pneumatic operators require greater clearances than shown. Heavy duty sheave type hangers require not less than 11" headroom. When bar locks are used, hanger covers must be made straight.



TWO-SPEED UNITS WITH STATIONARY AND HINGED PANELS

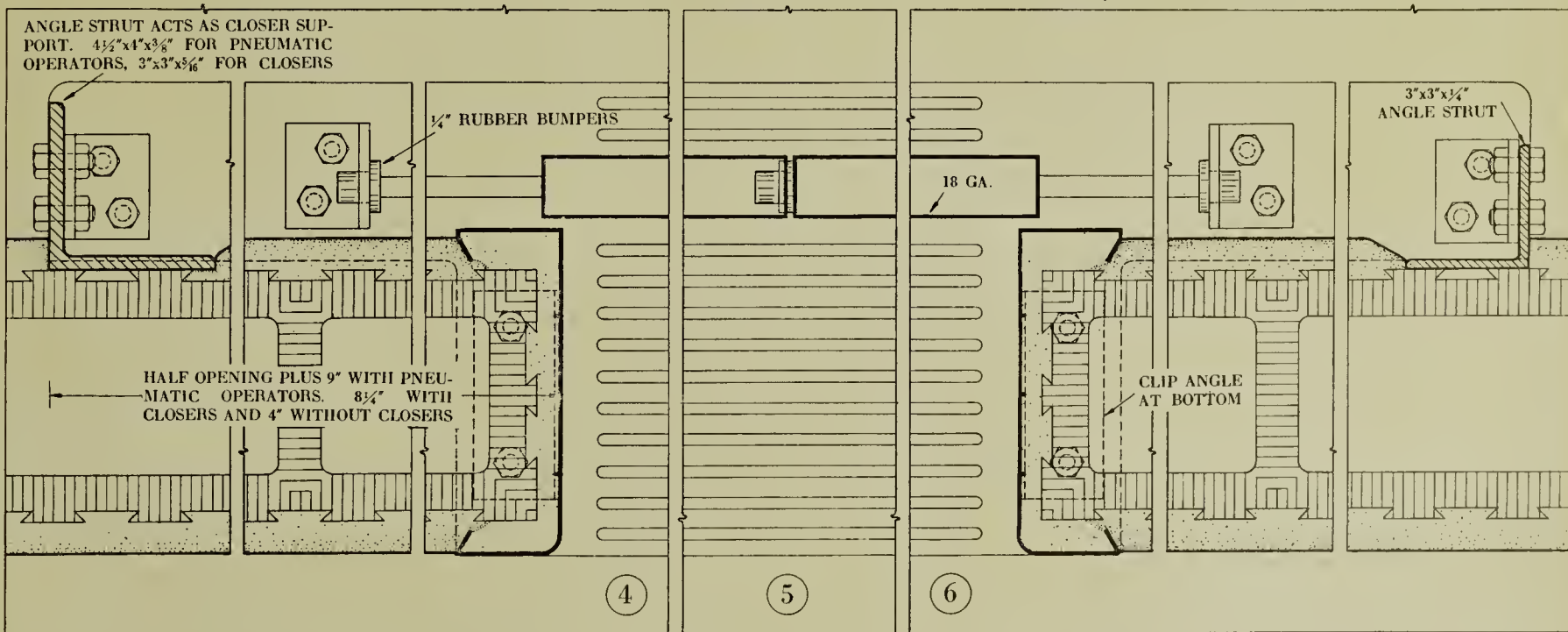
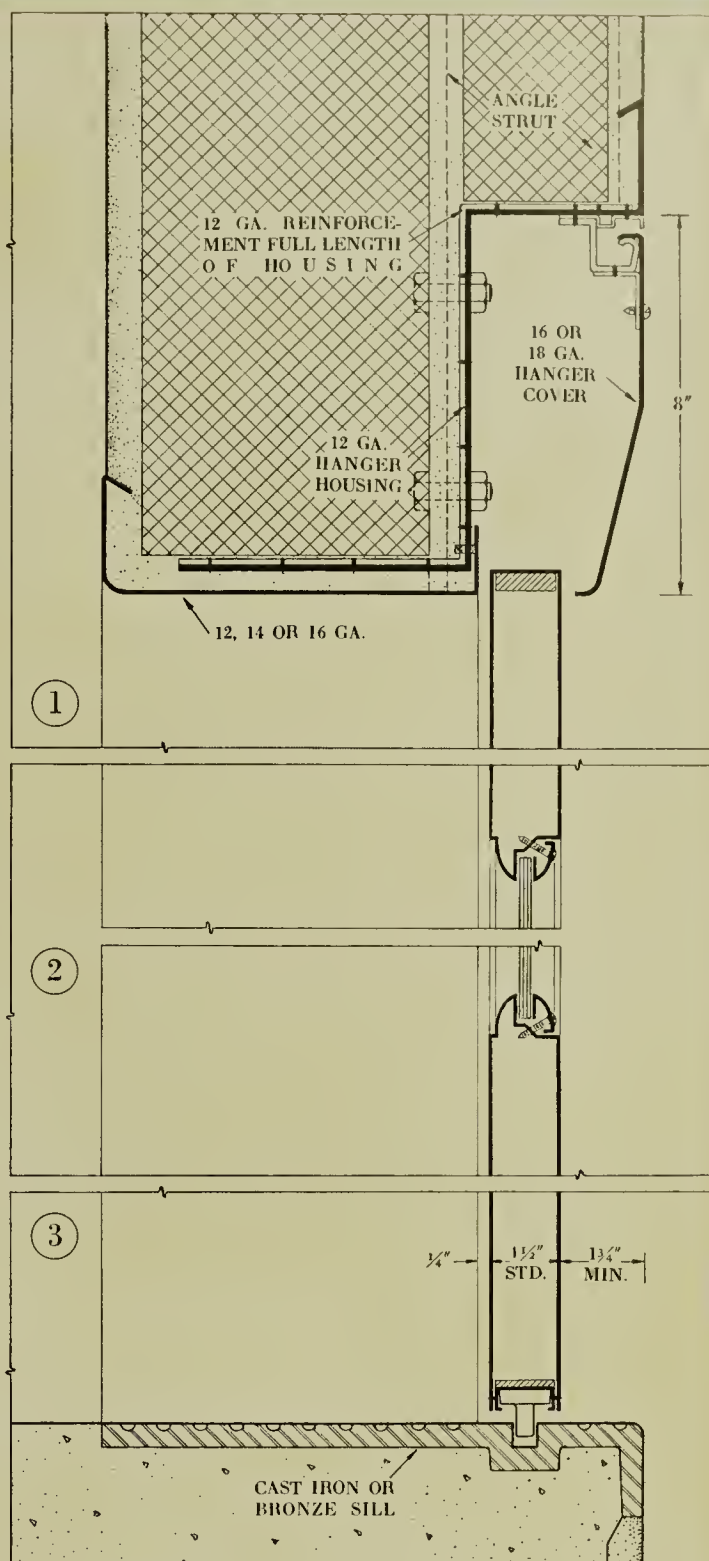
SCALE 3/16 IN. = 1 IN.



SOME makes of pneumatic operators require greater clearances than shown. Heavy duty sheave type hangers require not less than 11" headroom. When bar locks are used, hanger covers must be made straight.

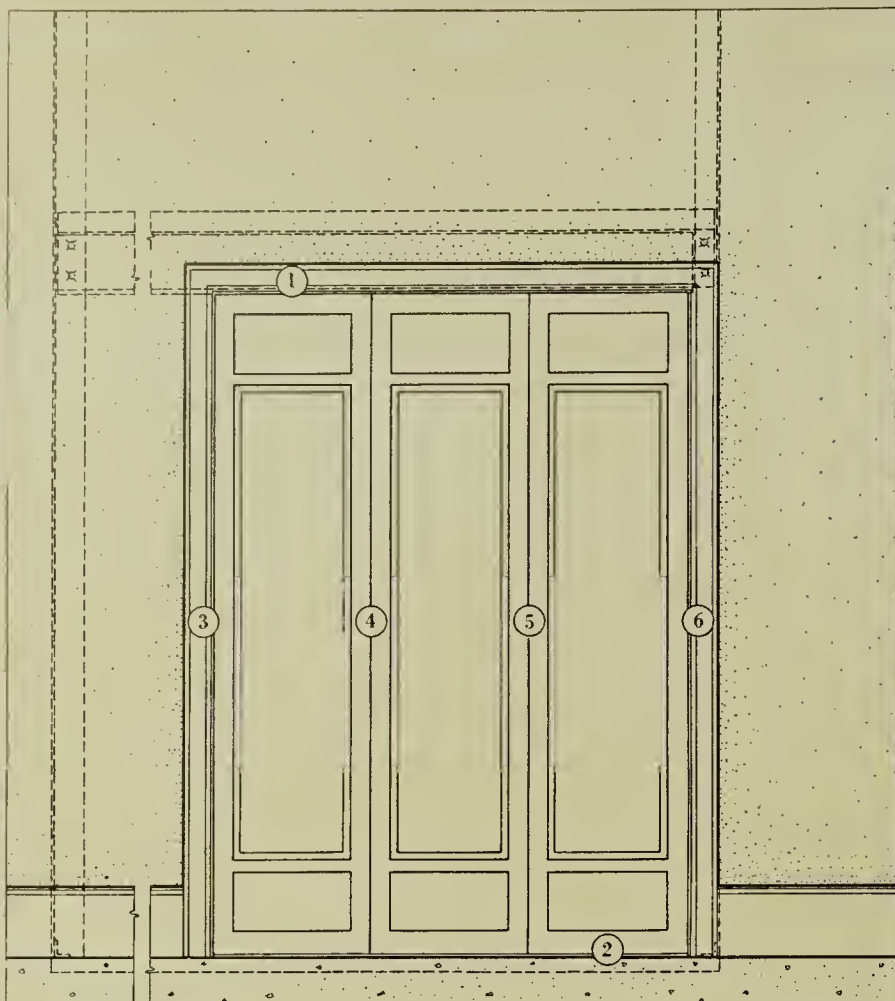
When sufficient space is not available to permit mounting the pneumatic operators or closers in back of doors as here detailed, these devices can be placed between the doors and cab as illustrated under "Hardware for Elevator Enclosures."

When overhead pneumatic operators are used, the construction is similar to that shown for two-speed center-parting units.



CENTER-PARTING UNIT

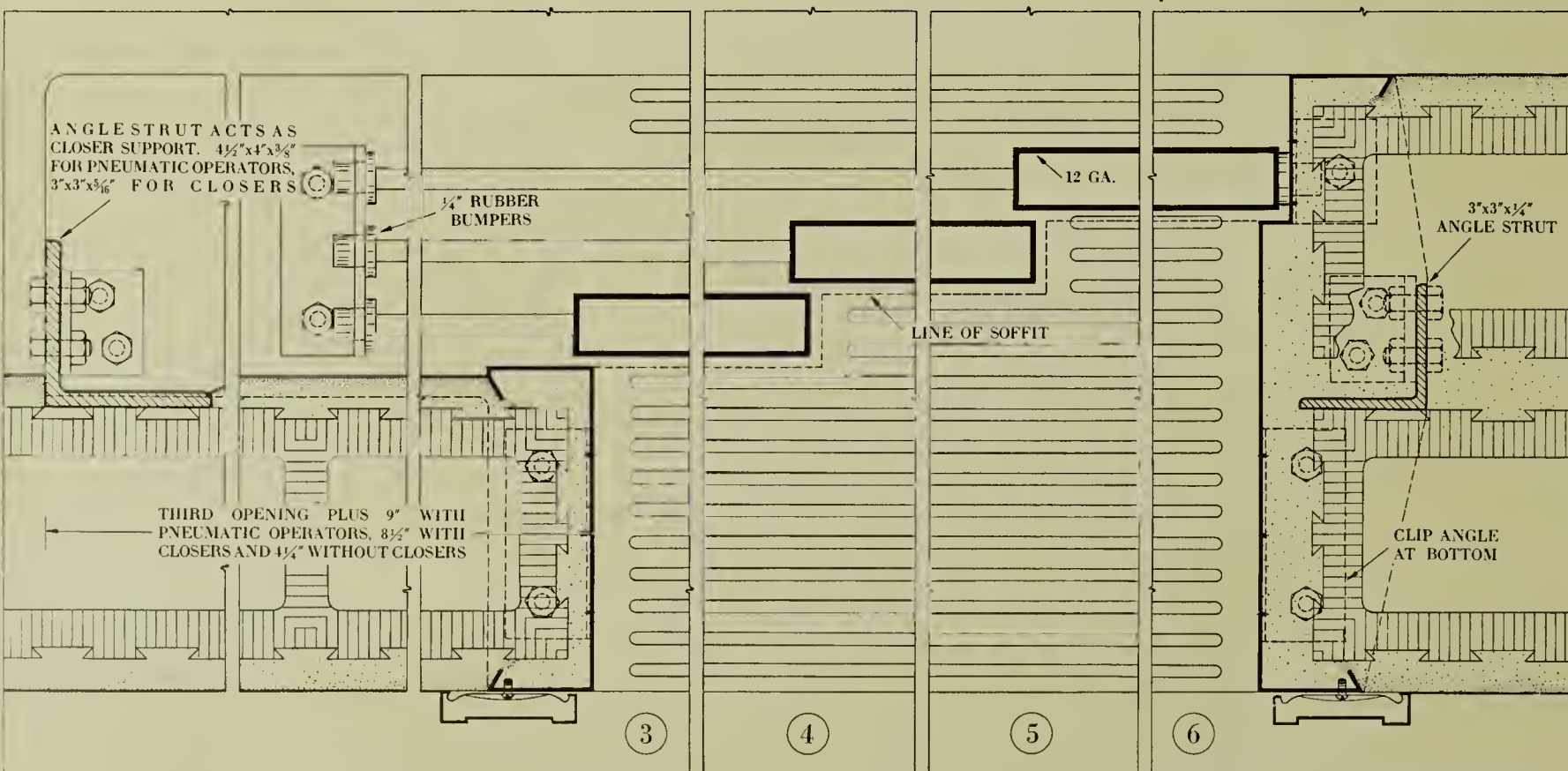
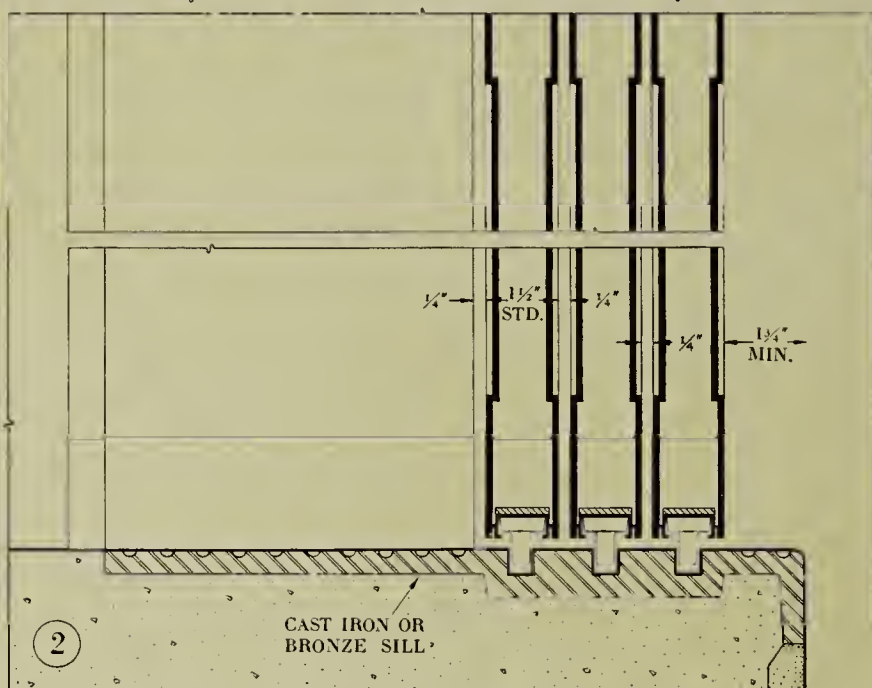
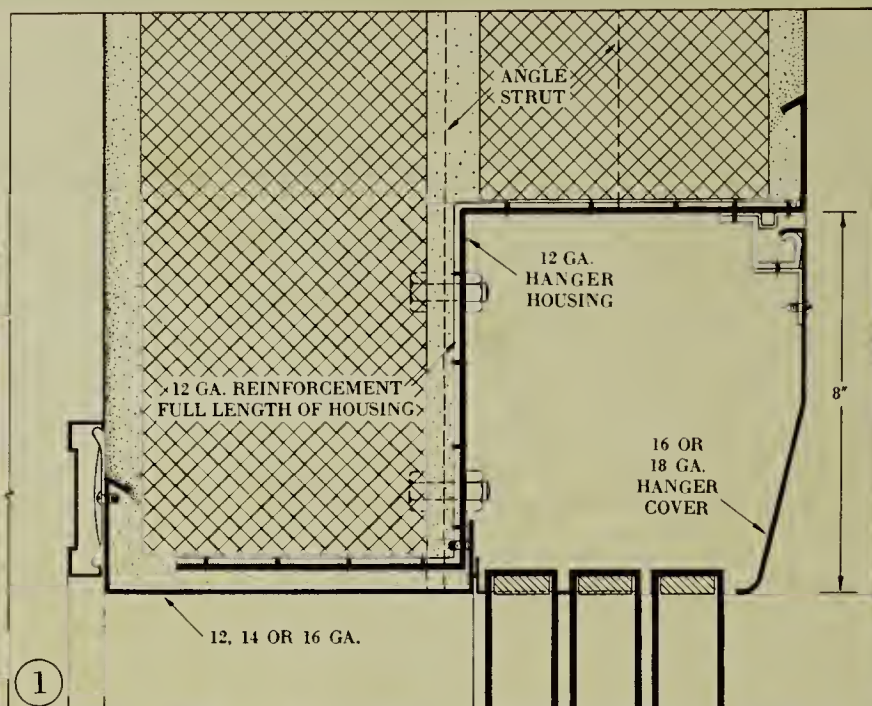
SCALE $\frac{3}{16}$ IN. = 1 IN.



PNEUMATIC operators are most commonly used with three-speed doors, as manual operation is difficult. Some makes of pneumatic operators require greater clearances than shown.

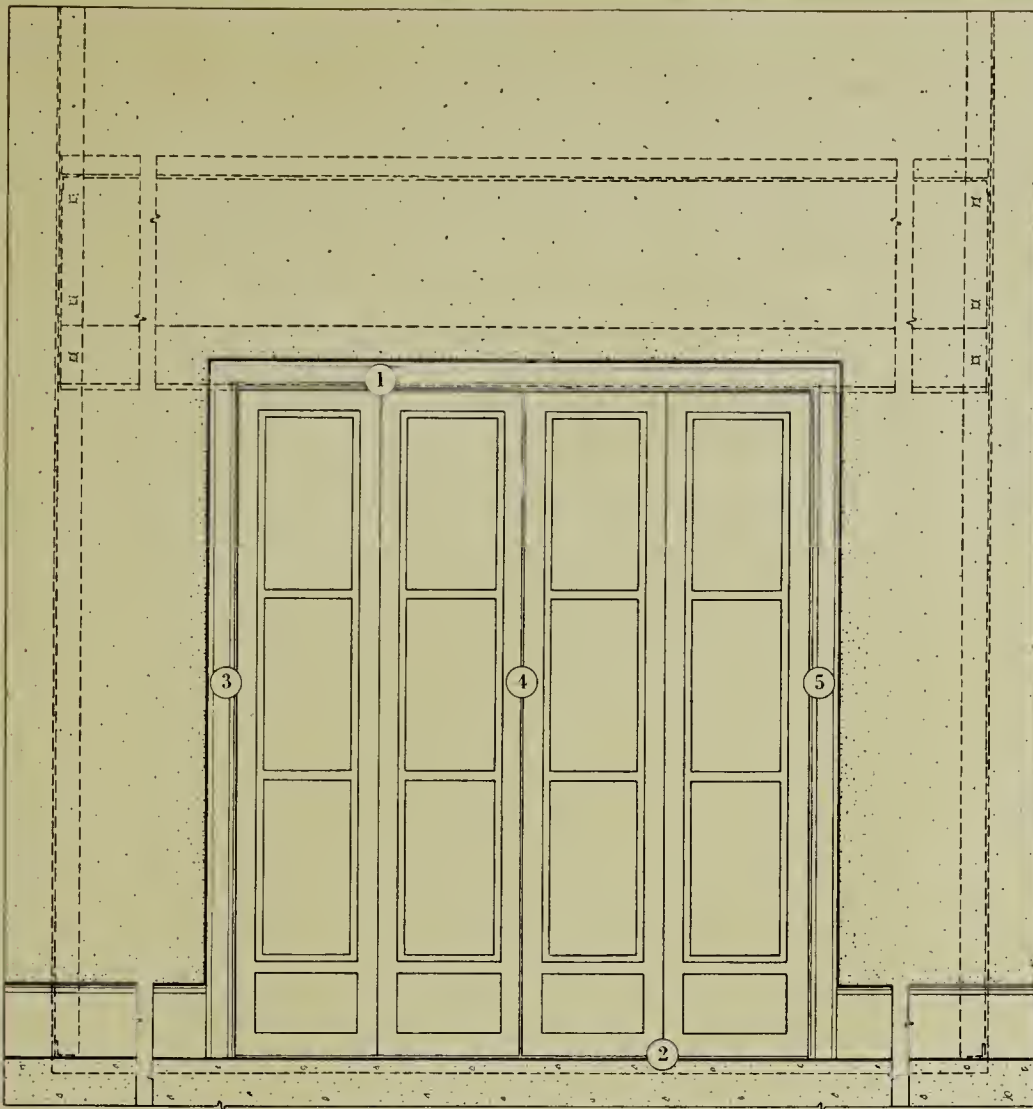
When all three doors are operated by the closers or pneumatic operators, the space in back of doors must be increased.

When heavy duty sheave type hangers are used, headroom must be increased to 11".



THREE-SPEED UNIT

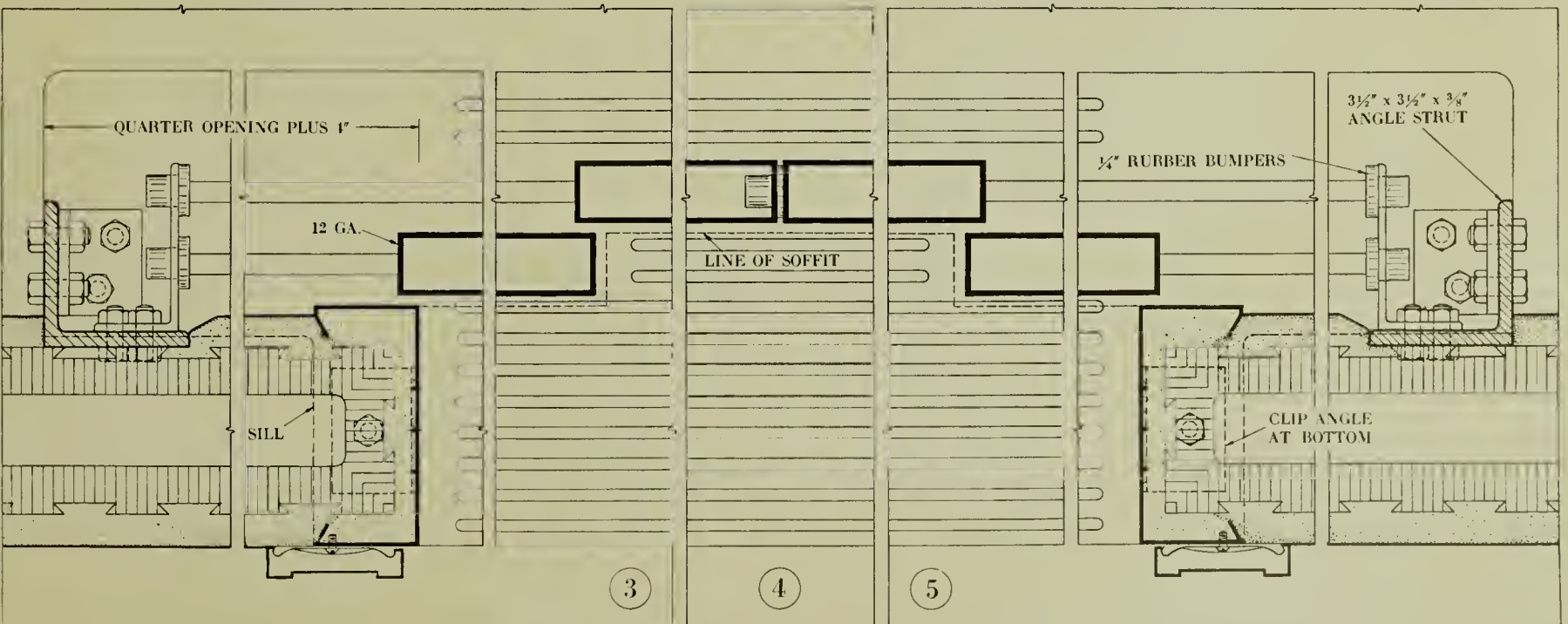
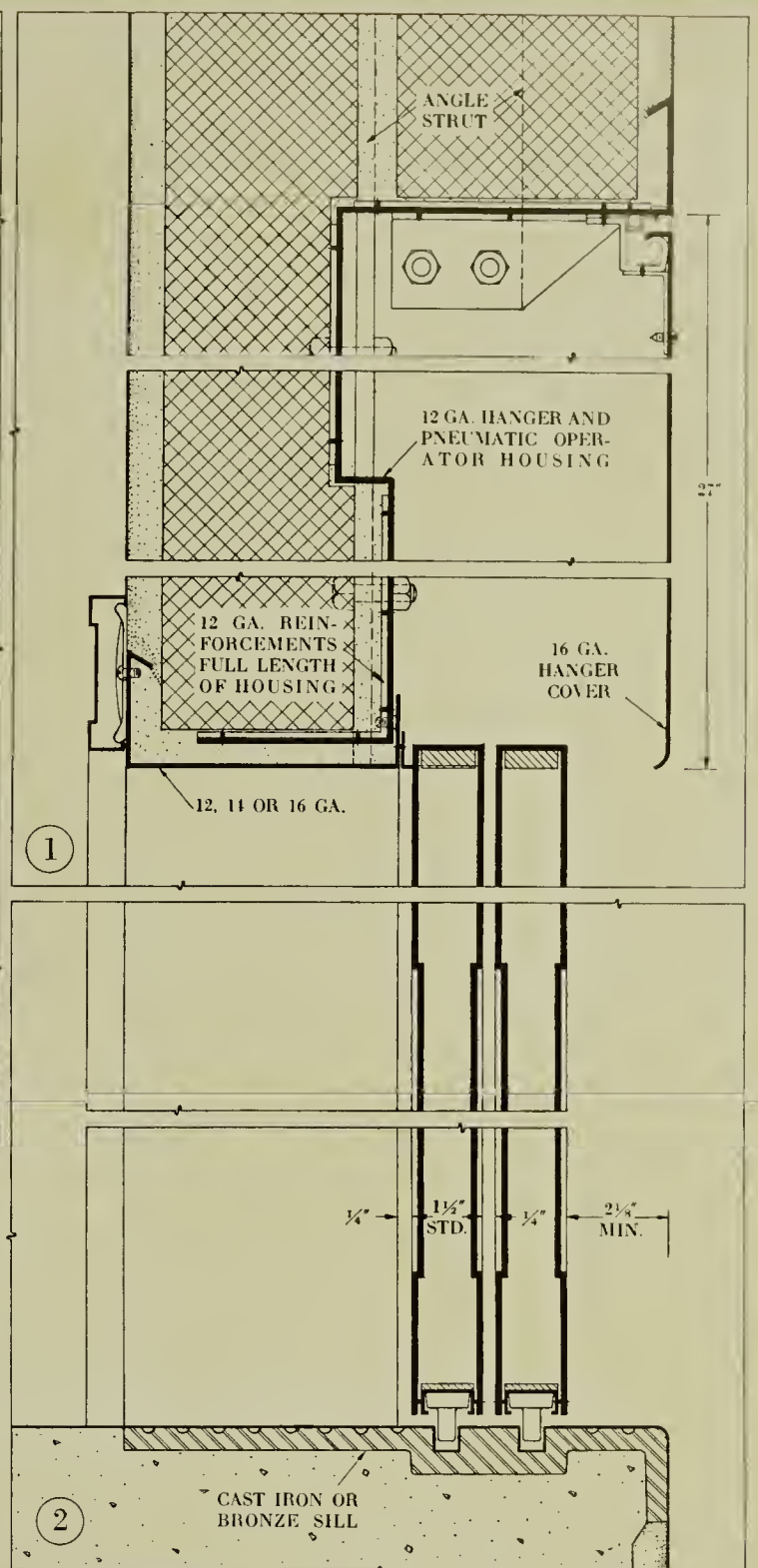
SCALE $\frac{3}{16}$ IN. = 1 IN.



TWO-SPEED center-parting doors permit maximum entrance space to the hatch and are commonly used in department stores where wide openings are required to handle the large volume of passenger traffic.

With this type of opening, overhead pneumatic operators provide the only practical method of door operation.

When heavy duty sheave type hangers are used, headroom must be increased to 30".



TWO-SPEED CENTER-PARTING UNIT

SCALE $\frac{3}{16}$ IN. = 1 IN.

ELEVATOR DOORS



DOORS may be had in any of these designs and in any size. Special designs can also be furnished.

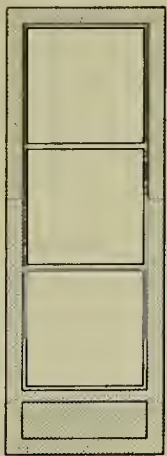
The types illustrated are of standard construction and profiles, with stiles and rails of standard widths, heights and thickness. These can be supplied in any of the designs shown.

Where required, doors can be furnished in special profiles at an additional cost.

Bottom rails, having sunken panels, can be provided with grilles in any of the designs shown on page 101.



ED 1



ED 2



ED 3



ED 4



ED 5



ED 6



ED 7



ED 8



ED 9



ED 10



ED 11



ED 12



ED 13



ED 14



ED 15



ED 16



ED 17



ED 18



ED 19



ED 20



ED 21



ED 22



ED 23



ED 24

DESIGNS OF ELEVATOR DOORS

SCALE $\frac{1}{4}$ IN. = 1 FT



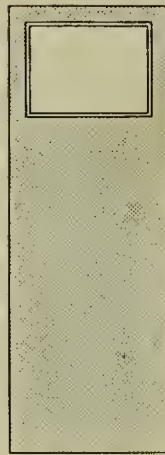
ED 25



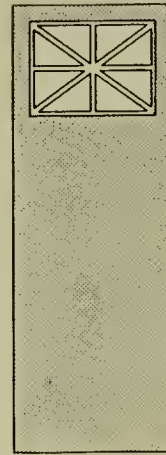
ED 26



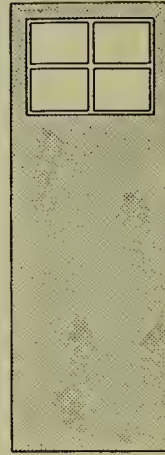
ED 27



ED 28



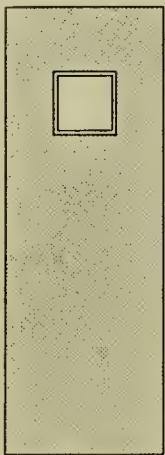
ED 29



ED 30



ED 31



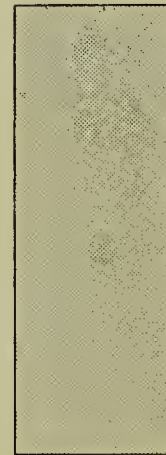
ED 32



ED 33



ED 34



ED 35



ED 36



ED 37



ED 38



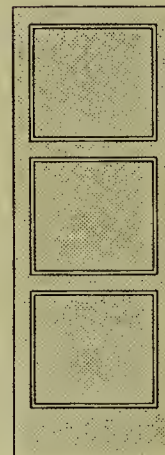
ED 39



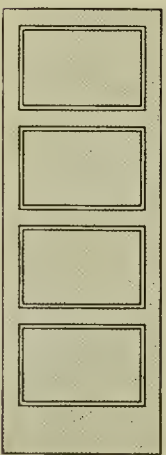
ED 40



ED 41



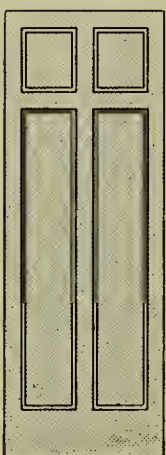
ED 42



ED 43



ED 44



ED 45



ED 46



ED 47



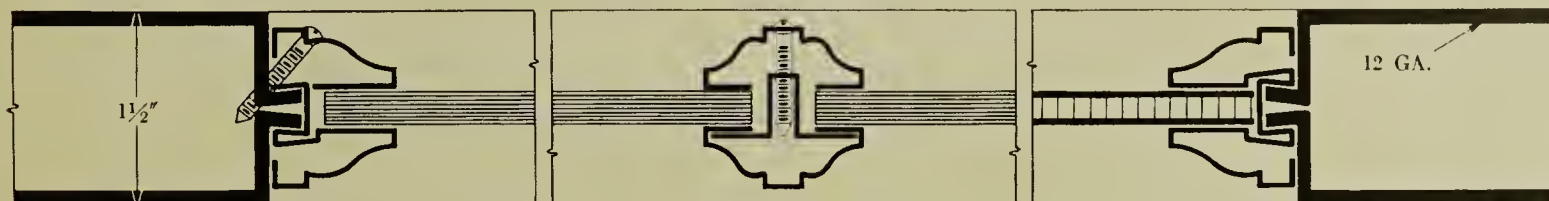
ED 48

DESIGNS OF ELEVATOR DOORS

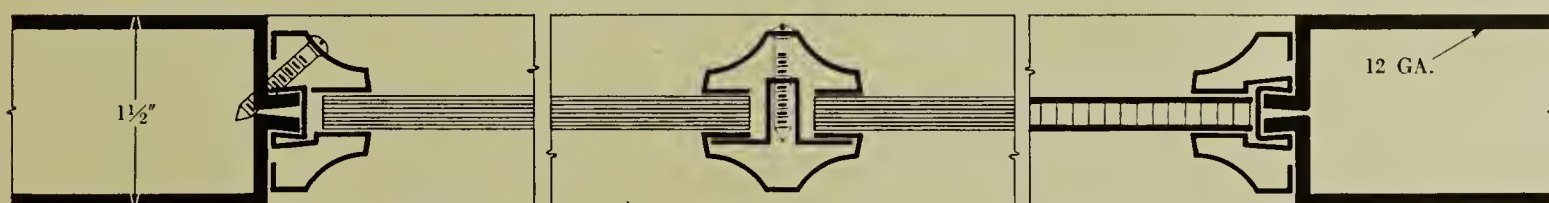
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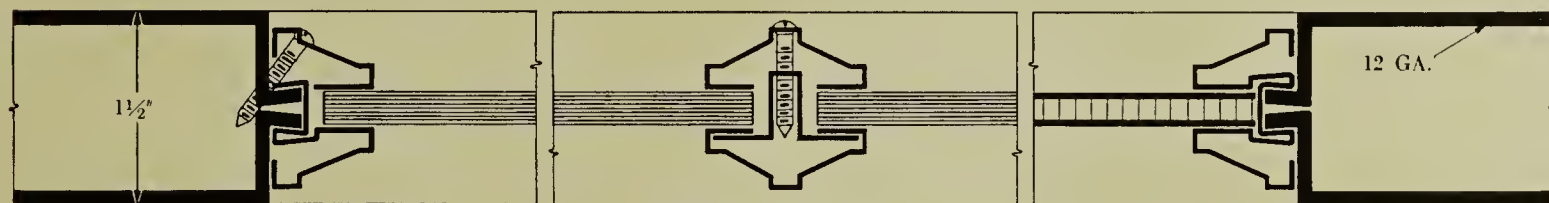
TYPE 150



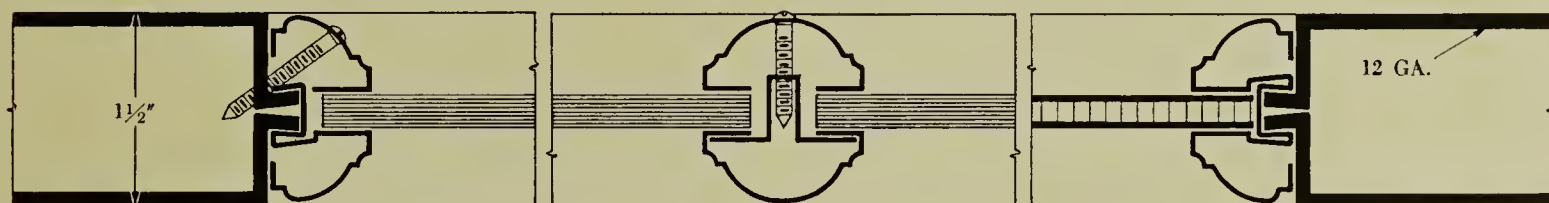
TYPE 151



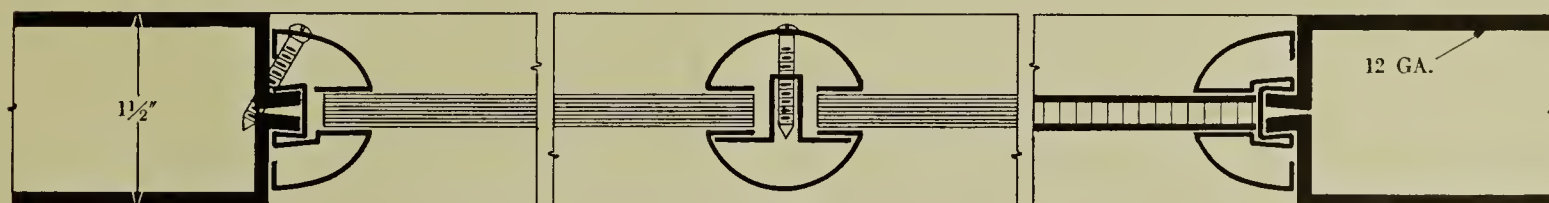
TYPE 152



TYPE 153



TYPE 154

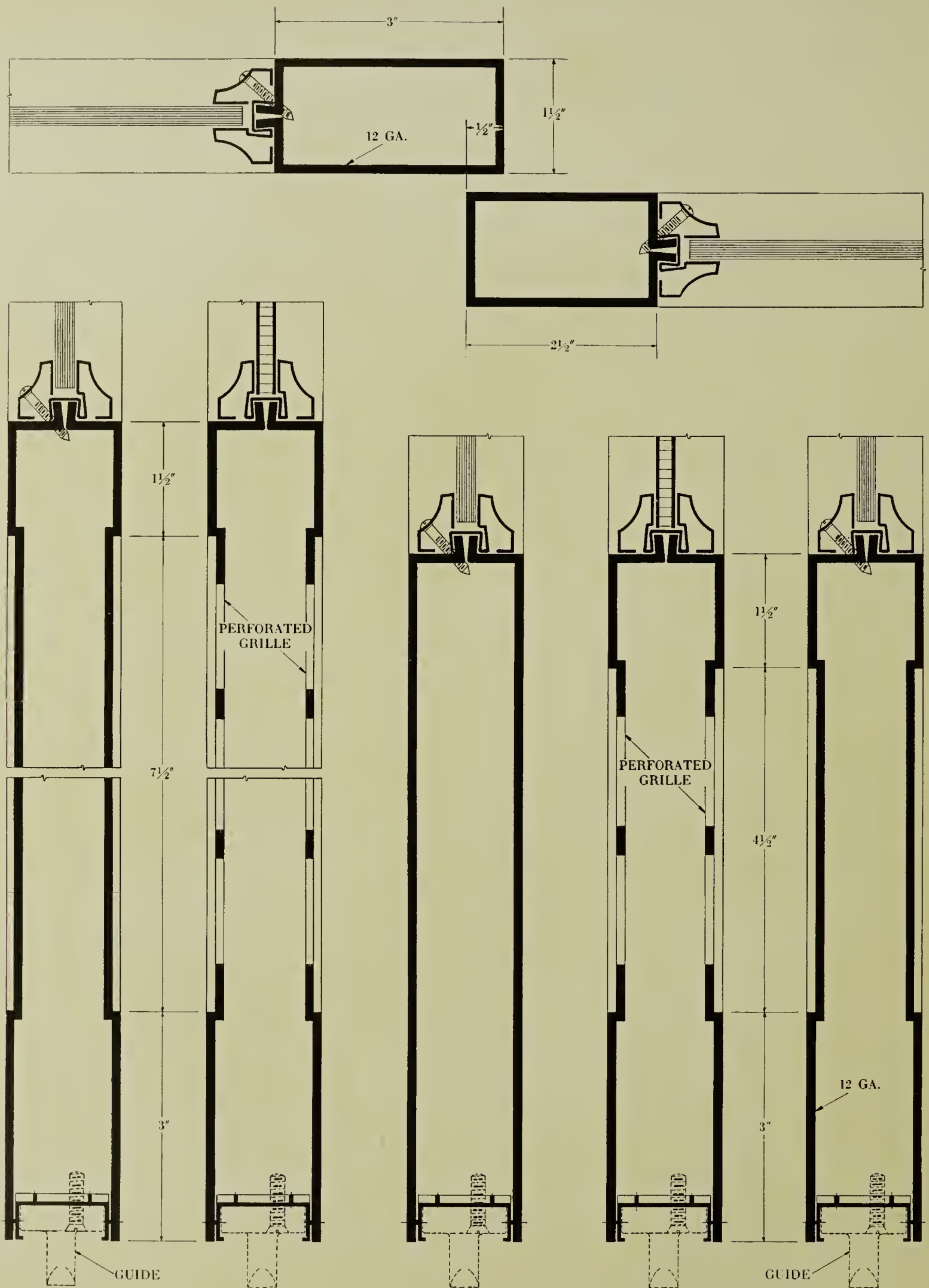


TYPE 155



TYPE 156

TYPES OF ELEVATOR DOORS
ONE-HALF SIZE

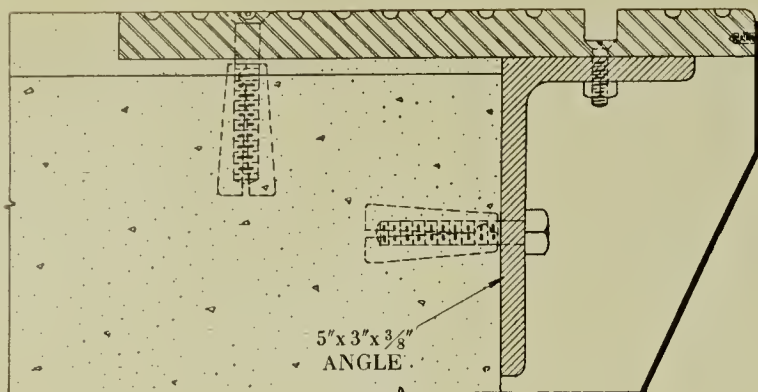


ELEVATOR DOOR STILES AND RAILS
ONE-HALF SIZE

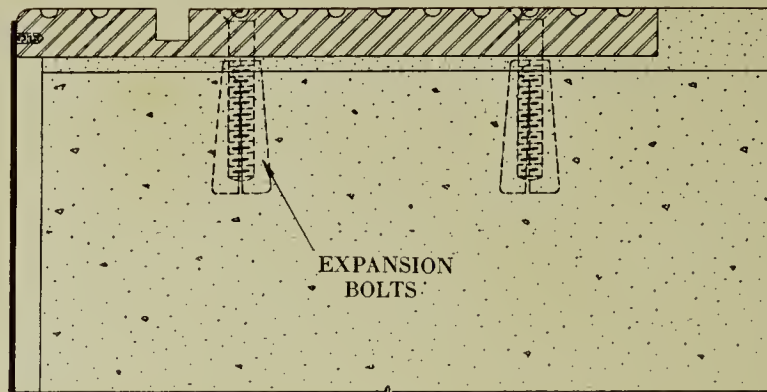
ELEVATOR SILLS AND FACIAS



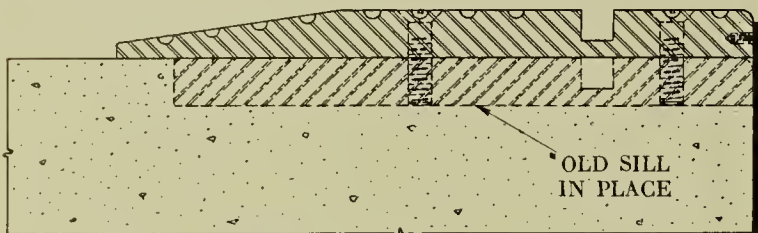
SILLS can be supplied in bronze or cast iron and in any width and length, with or without facias. Where required, sills can be furnished with special anchoring arrangements, and in other profiles than shown.



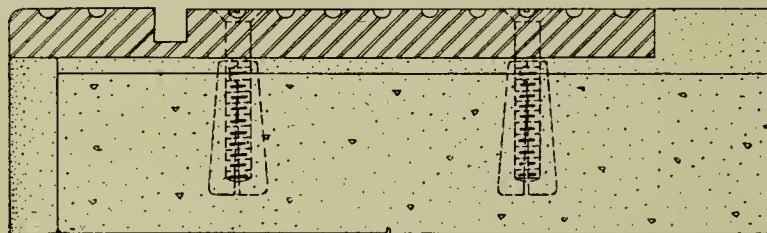
CS 10



CS 11



CS 12



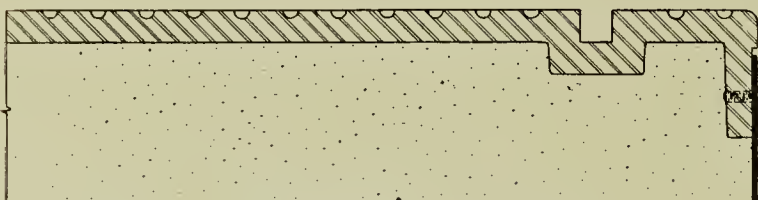
CS 13



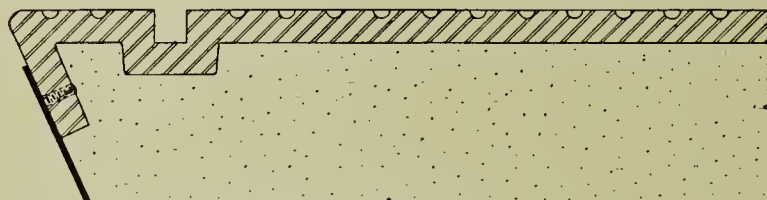
CS 14



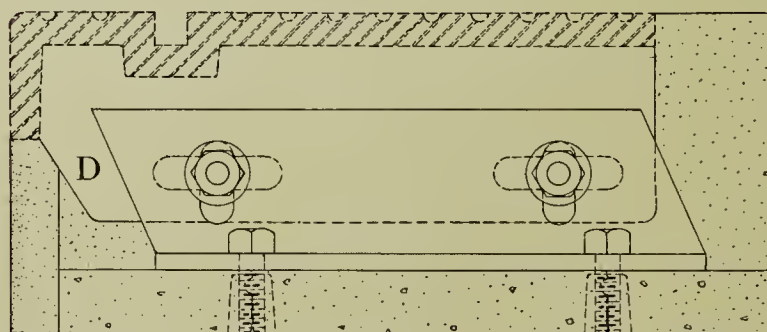
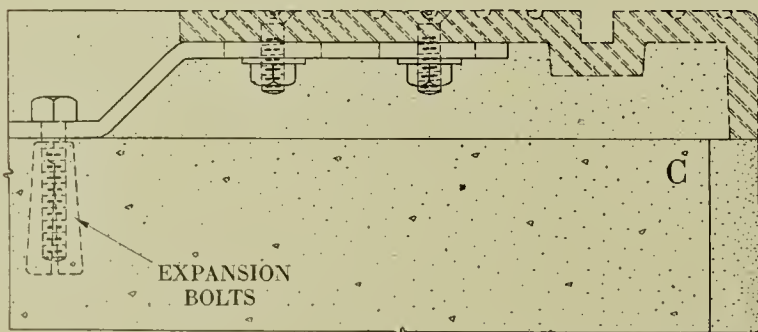
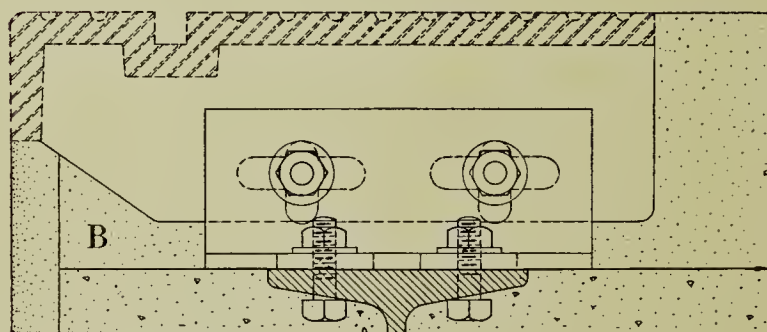
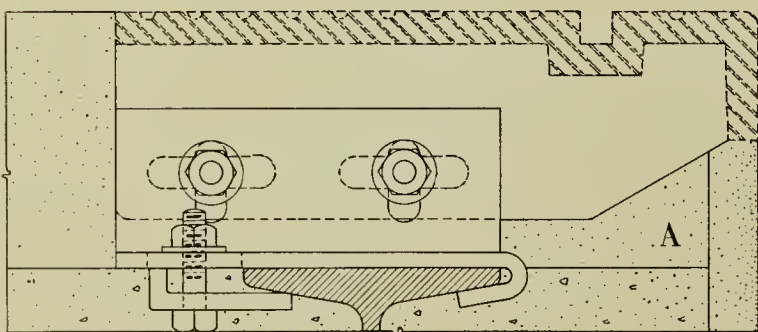
CS 15



CS 16



CS 17



Anchor Diagrams A, B, C and D Adaptable for Types CS 14 to CS 17 Inclusive
Facia Plates are Made of 14 or 16 Ga.

ELEVATOR SILL AND FACIA DETAILS

SCALE 3 IN. = 1 FT.

GENERAL DESCRIPTION OF HOLLOW STEEL ELEVATOR ENCLOSURES



Materials—Materials used are the best of their respective kinds. Steel is of the highest grade commercial furniture stock of U. S. standard gauge.

Workmanship—All work is executed by skilled mechanics and is of the finest grade; neat in appearance and free from defects.

Doors (Metal Panel Type)—Panels are constructed of two 18 gauge steel plates separated by heat-retarding filler. Panel mouldings—cold drawn to profile—are fitted to panels, mitred and welded at corners, forming a continuous frame around panels.

Stiles and rails are cold rolled of 12 gauge steel and continuously interlocked to panel mouldings. Stiles are fitted to rails and welded at joints. Stiffener channels extending full width are welded inside the doors at the bottom.

Continuous rubber bumpers, secured in place by neat cold drawn mouldings, are provided for center-parting doors. For all other types, rubber bumpers are fastened to frames and sills.

Two cast iron guides are attached to the bottom of each sliding door. Flush bolts are used as guides when doors are combination slide and swing.

Doors (Flush Type)—Doors are constructed of two 18 gauge steel plates

locked together with special interlocking members welded to plates. These members are spaced not more than 6" apart and extend full height of doors. Continuous reinforcements and stiffener channels are welded inside the doors at top and bottom, and in both sides. Compressed cork is placed in doors to eliminate metallic sound.

Continuous rubber bumpers, secured in place by neat cold drawn mouldings, are provided for center-parting doors. For all other types, rubber bumpers are fastened to frames and sills.

Two cast iron guides are attached to the bottom of each sliding door. Flush bolts are used as guides when doors are combination slide and swing.

Doors (Glass Panel Type)—Glass panels are held in place by removable mouldings which are secured to stationary mouldings with oval head machine screws. Mouldings are cold drawn to profile and are made into frames with corners mitred and welded. Stiles and rails are interlocked to stationary mouldings as described under "Metal Panel Type."

When doors are "Flush Type," stationary mouldings are interlocked to plates in a similar manner.

Muntins are constructed of cold drawn

interlocking shapes, fitted and welded to panel mouldings.

Where mirrors occur, 18 gauge steel plates are provided for backing up.

Stationary Panels—Panels are constructed as previously described for doors, with the exception that no provisions are made for hardware or guides. Panels are secured to frames at the head and side with machine screws, and held in place at the bottom by channels fastened to sills.

Grilles—Grilles are of 14 gauge perforated steel securely welded in bottom rail of doors.

Glass—Glass, which is usually furnished by us, is set in rubber inserts and putty and held in place by removable moulding frames.

Mirrors are set in the same manner, with the exception that they are backed up with felt.

Hanger Housings—Hanger housings are formed of two 12 gauge steel plates spot-welded together and firmly fastened to angle supports at both ends with machine bolts and nuts.

Hanger Covers—Hanger covers are formed of 16 or 18 gauge steel and attached to hanger housings by concealed method. Ready access to hangers is permitted without removing covers.

Angle Supports—Hanger housings are supported independent of the walls by two structural steel angles extending from sill to either steel or concrete beam overhead and securely fastened in place. One of these angles is located to

act as a closer support when closers or pneumatic operators are used.

Frames (Combination Buck, Jamb and Trim Type)—Frames are formed of 16 gauge steel, mitred and welded at corners. They are securely fastened to hanger housings with machine screws and to the sills with clip angles and cap screws. Where required, a suitable number of rubber bumpers is provided.

Frames (Combination Buck and Jamb Type)—Frames are formed of 12, 14 or 16 gauge steel, either mitred or coped and welded at corners. They are securely fastened to hanger housings with machine screws and to the sills with clip angles and cap screws. Where required, a suitable number of rubber bumpers is provided.

Sills—Sills are either close grain gray iron or bronze castings with non-slip surfaces, securely anchored to either structural steel or concrete. The grooves for door guides are machined. Bumper angles, secured to sills with cap screws, are provided where required.

Facias—Facias are formed of either 14 or 16 gauge steel, substantially reinforced where necessary, and securely fastened in place.

Casings—Casings are cold drawn of 18 gauge steel, mitred and welded at corners, and secured to frames by concealed fastenings or oval head machine screws.

Scribe Mouldings—Mouldings are cold drawn of 18 gauge steel either mitred or coped at corners, and secured to frames by oval head machine screws.

Plinths—Plinths are formed of 18 gauge steel and secured to frames by concealed fastenings or oval head machine screws.

Provisions for Hardware—All work is mortised where required, reinforced, drilled and tapped at the factory to receive hardware, except that drilling and tapping for bar locks, pneumatic operators, door closers, rack and pawl devices, interlocks and striker plates are done at the building.

Frames for combination slide and swing type doors are provided with cover boxes in back of all hardware cut-outs.

Prime Finish (Doors)—Before assembling, metal panels are painted on the inside. After assembling, all oil, dirt and rust are removed. Doors are thoroughly coated on the inside and outside with rust-resisting paint by a dip process, and then baked.

Exposed surfaces are filled where required, each coat baked and sanded. Priming coat of paint is then applied and baked.

Prime Finish (All Other Work)—After assembling, all oil, dirt and rust are removed. Exposed surfaces are filled where required, each coat baked and sanded. Priming coat of paint is then

applied to all surfaces, both inside and outside, and baked.

Plain Enamel Finish—Prime coat is thoroughly sanded, after which three coats of enamel—of a color as selected—are applied to all exposed surfaces. Each coat is baked and rubbed, the final coat being rubbed to an egg-shell gloss.

Grained Finish—Prime coat is thoroughly sanded, after which all exposed surfaces are hand grained to match sample selected, and then baked. Two coats of finishing varnish are then applied, each coat baked and rubbed, the final coat being rubbed to an egg-shell gloss.

Crating—The finished products are substantially crated to guard against damage in transit. Frames when finished in baked enamel are protected by oiled paper and crated individually. Crating is not removed until after walls have been plastered.

Erection—All work is erected plumb and true by skilled mechanics. The frames, hanger housings, angle supports, sills, etc., are set before walls are built. The doors, casings, etc., are erected after plastering has been completed and floors are broom clean.

HARDWARE FOR ELEVATOR ENCLOSURES



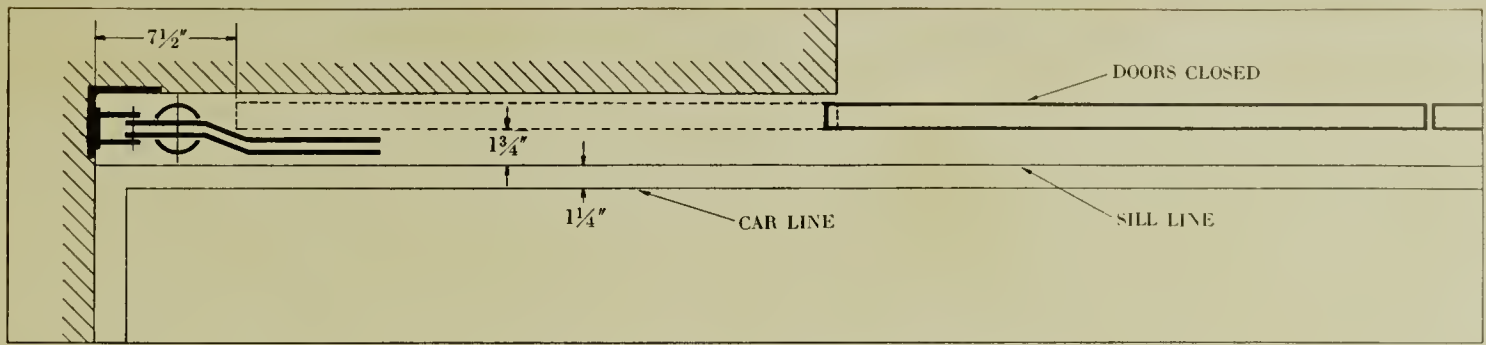
ON THE succeeding pages are illustrated various arrangements showing clearances required for Pneumatic Door Operators and Door Closers, together with a complete specification covering hardware of practically every make and type.



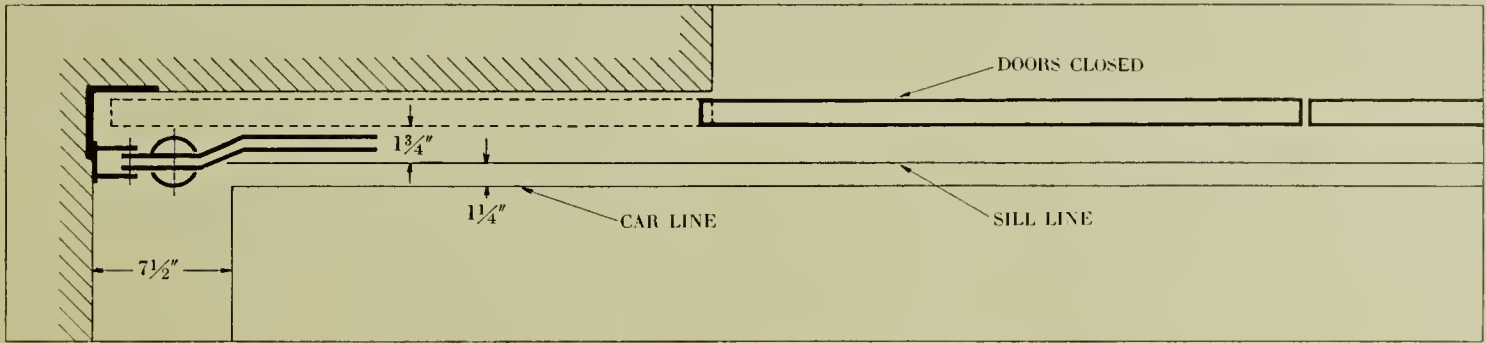
EXPERIENCE has shown that the operation of elevator enclosures is more consistently efficient when hardware, in addition to all other items, is included in the door manufacturer's contract. Incidentally, this practice is generally more satisfactory to all concerned, since it eliminates division of responsibility.

In the event hardware is furnished under separate contract, it is important that schedules and templets be promptly furnished, to permit drilling and tapping for hardware before assembling, and mortising while steel is "flat." Templets may be either blue print or physical.

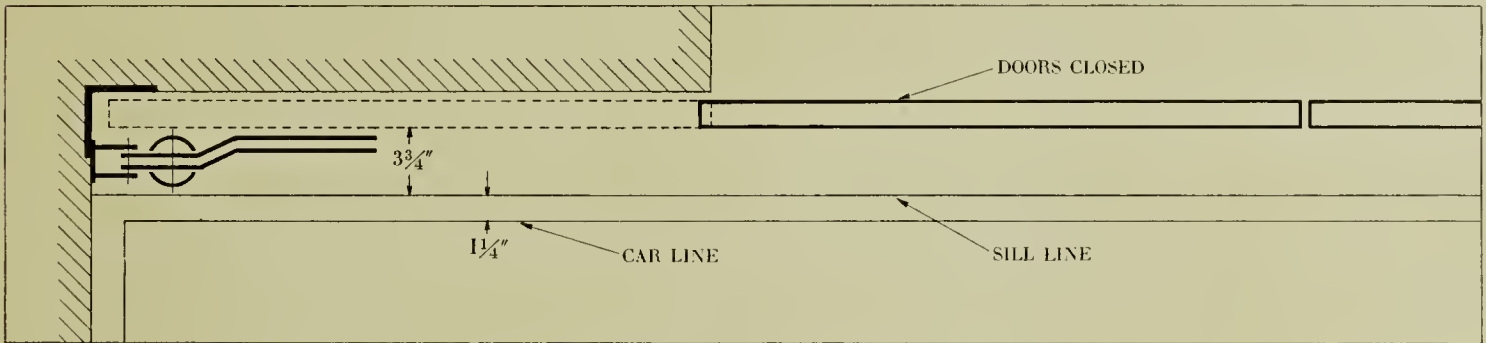
All finished hardware should be shipped direct to the building for application, except butt hinges, flush bolts, latches, and door handles, which are usually applied at our factory.



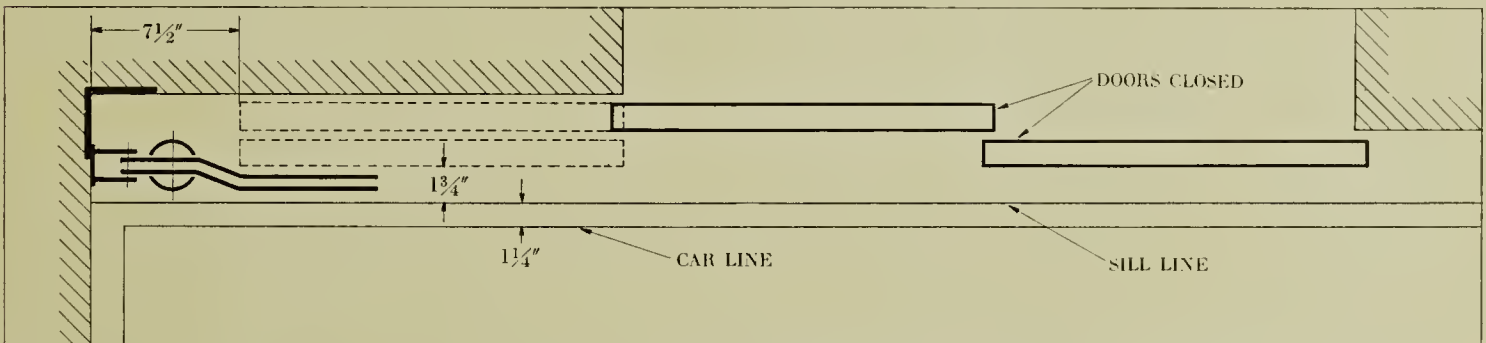
PLAN 1—FOR SINGLE OR CENTER-PARTING DOORS



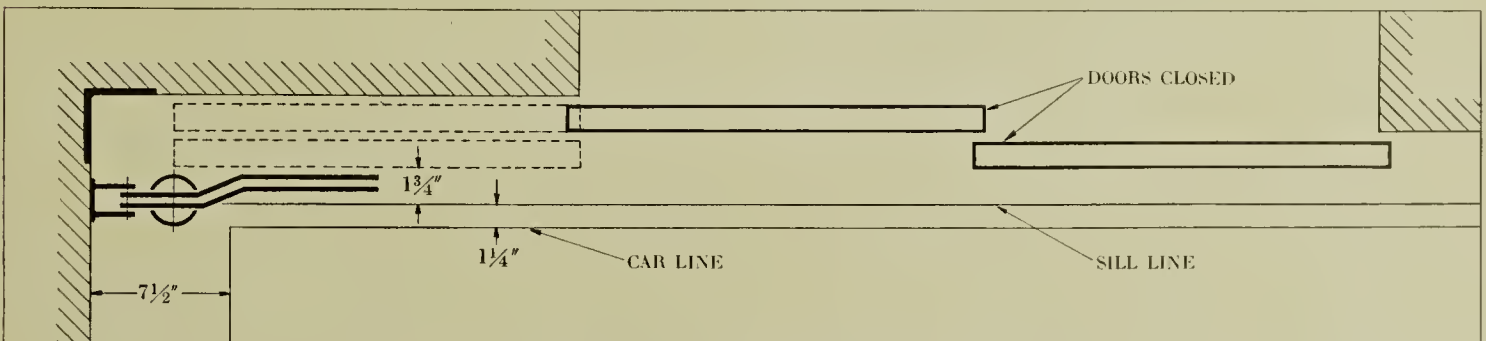
PLAN 2—FOR SINGLE OR CENTER-PARTING DOORS



PLAN 3—FOR SINGLE OR CENTER-PARTING DOORS



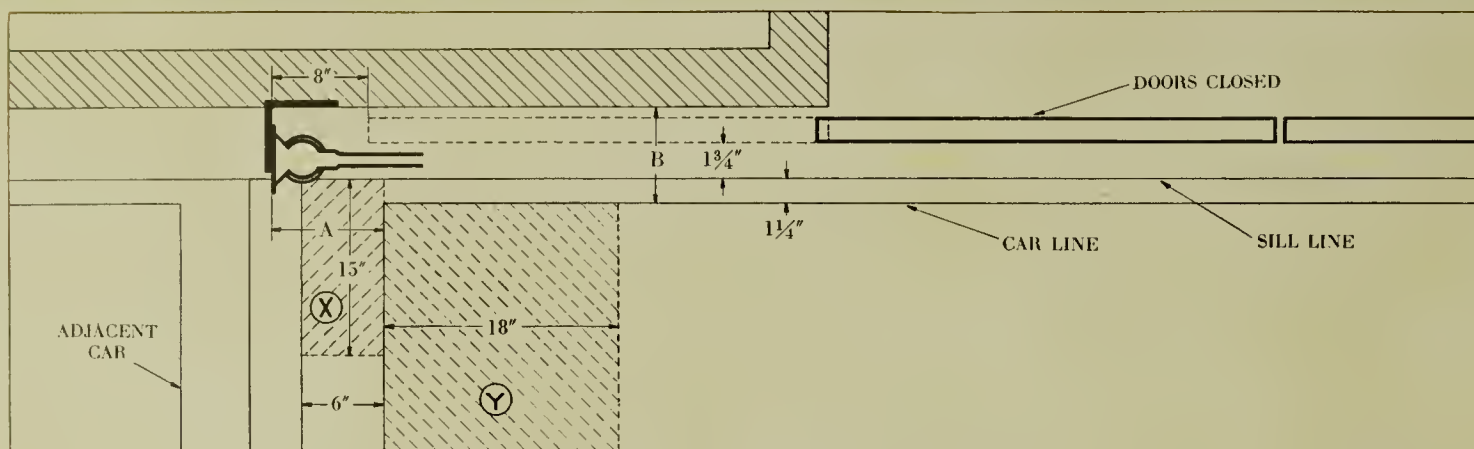
PLAN 4—FOR TWO-SPEED DOORS



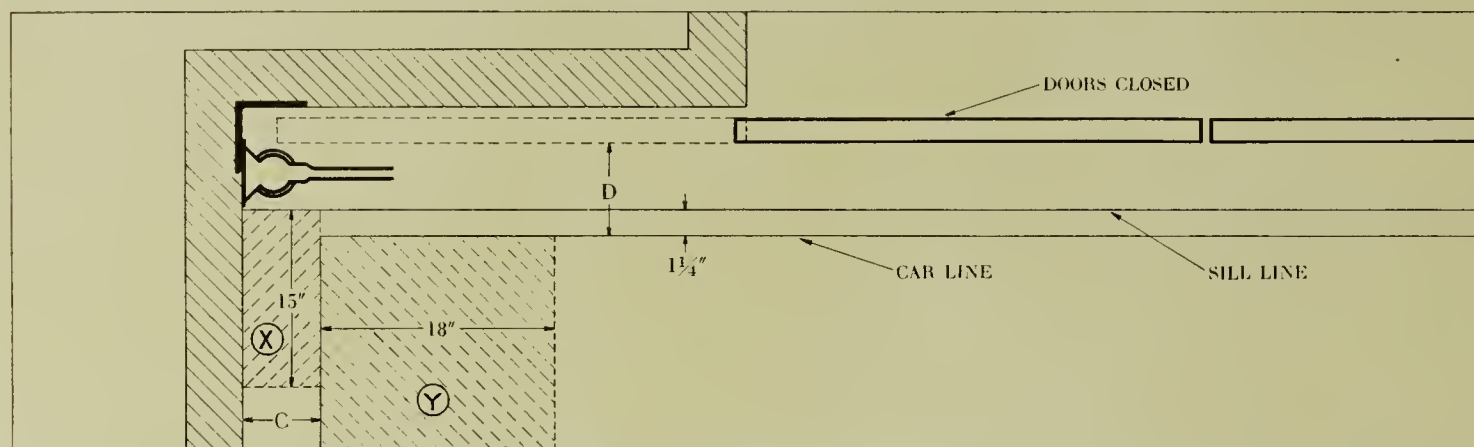
PLAN 5—FOR TWO-SPEED DOORS

CLEARANCES SHOWN ARE MINIMUM

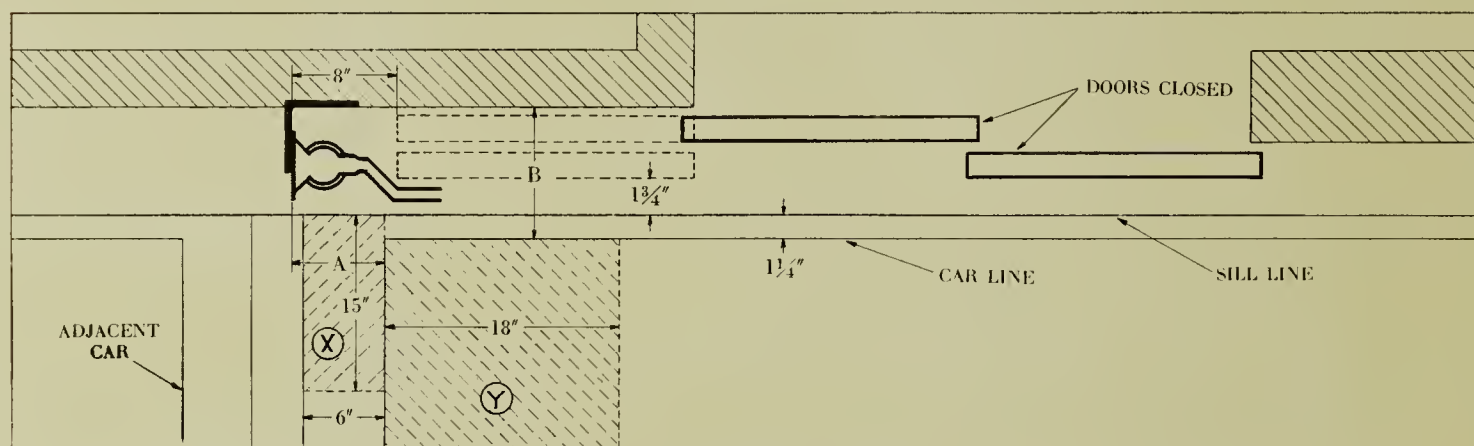
SPACE REQUIRED
FOR
DOOR CLOSERS



PLAN 1—FOR SINGLE OR CENTER-PARTING DOORS



PLAN 2—FOR SINGLE OR CENTER-PARTING DOORS



PLAN 3—FOR TWO-SPEED DOORS

OWING to varying conditions in elevator hatch construction and the different clearances required for the various makes and types of pneumatic operators, it is almost impossible to indicate exact space required for each.

Above are illustrated arrangements giving minimum clearances most generally needed.

Space marked (X) to be kept clear full height of hatch for car cam.

Space marked (Y) on under side of platform, from front edge back to safety chan-

nels, to be kept as clear as possible for cam mechanism.

Dimension A must be at least $8\frac{1}{2}$ " if B is less than $6\frac{1}{2}$ ".

Dimension A may be disregarded if B is $6\frac{1}{2}$ " or more.

Dimension C must be at least 10" if D is less than $6\frac{1}{2}$ ".

Dimension C may be 6" if D is $6\frac{1}{2}$ " or more.

Plans 1 and 3 show elevators adjoining another hatch. The same dimensions would apply if the elevators were adjacent to a wall, as in Plan 2.

SPACE REQUIRED
FOR
PNEUMATIC DOOR OPERATORS
(SIDE ARM ENGINES)

FOR CONVENIENCE WE HERE LIST COMBINATIONS
OF DOOR-OPERATING HARDWARE MOST COMMONLY USED
IN CONNECTION WITH THE TYPES OF ELEVATORS
UNDER WHICH THEY ARE GROUPED



**Full Automatic Elevators (Such as
Otis Signal Control)**

1. Full Automatic Door Operation

Hangers
Pneumatic Operators with Supports
(Overhead or side arm engines)
Electric Interlocks
Emergency Release Switches

2. Semi-Automatic Door Operation

Hangers
Door Closers with Supports
Electric Interlocks
Emergency Release Switches
Rack and Pawl Devices
Car Trips and Striker Plates

NOTE—Combination 1 is ordinarily used in connection with elevators of this type. The cost of combination 2 is considerably less than combination 1.

**Car Switch Elevators Equipped with
Automatic Leveling Devices, and
Straight Car Switch Elevators**

1. Full Automatic Door Operation

Hangers
Pneumatic Operators with Supports
(Overhead or side arm engines)
Electric Interlocks
Emergency Release Switches

2. Semi-Automatic Door Operation

Hangers
Door Closers with Supports
Electric Interlocks

Emergency Release Switches
Rack and Pawl Devices
Car Trips and Striker Plates

3. Manual Door Operation

Hangers
Barlock Interlocks
Emergency Release Switches

4. Manual Door Operation

Hangers
Bar Locks, Gravity Locks or Latches

NOTE—When combination 1 is used with Straight Car Switch Elevators, the door operation is not entirely automatic as the controlling cam is operated by means of a hand lever.

Combination 3 is most generally used for Freight or Service Elevators, where low cost and safety, rather than speed and quietness of operation, are the primary considerations.

Combination 4 not being equipped with interlocks does not prohibit the starting or operation of elevators while doors are open or unlocked. Interlocks are required by law in most cities, and their use generally effects a saving on Public Liability Insurance.

**Dual Control (Combination Push
Button and Car Switch Elevators)
and Push Button Elevators**

5. Semi-Automatic Door Operation

Hangers
Door Closers with Supports
Electrical and Mechanical Interlocks
Door Handles

6. Manual Door Operation

Hangers
Electrical and Mechanical Interlocks
Gravity Locks, Latches or Door
Handles.

NOTE—Electrical and Mechanical Interlocks vary in construction and operation. These form an important part of the controlling mechanism of Push Button and Dual Control Elevators and should always be included in the elevator contract.

A—One of the types most commonly used, consists of an electric interlock operated by a mechanical latch which also acts as a lock on the door closer arm. Mechanical latch is operated through a sill trip by means of an automatically operated cam attached to the car.

B—Another type frequently used, consists of an arm mounted on the door which engages an interlock attached to the frame, automatically locking the doors when in a fully closed position. Gravity locks or latches are sometimes specified for the purpose of holding doors closed until contact is made in the interlock, while in some cases door handles only are used. Door closers are, however, recommended to insure doors always being fully closed, as occasionally, through negligence, doors are left partly open when not equipped with closers.

GENERAL NOTES

Combination slide and swing type doors must be equipped with butt hinges and flush bolts in addition to the other hardware.

Codes governing the installation of elevator door-operating hardware should be considered, as one of the requirements of most states and cities is that all openings must be equipped with Electric Interlocks. In Pennsylvania, the code requires that openings for all types of elevators be provided with a combined Electrical and Mechanical Interlock, so arranged that it can only be operated by the car when at the landing. (This device should be included in the elevator contract.)

Sequence Relays are required in Pennsylvania and New Jersey. New York State, Baltimore and Washington, D.C., require that keys be provided for unlocking doors on all floors from the corridor side. (This of course does not apply to Push Button or Dual Control Elevators.)

NOTE—*Electrical and Mechanical Interlocks, described in paragraph "A" under Dual Control and Push Button Elevators, will meet the requirements of the Pennsylvania code, and can be used with all types of elevators. When used with Straight Car Switch Elevators, the cam must, however, be manually operated.*

This device is adaptable for use with Pneumatic Operators (Side arm engines) and Barlock Interlocks as well as Door Closers.

GENERAL SPECIFICATIONS FOR ELEVATOR DOOR HARDWARE



All hardware shall be of dependable and recognized manufacture subject to the Architect's approval

Hangers—Hangers may be of sheave, roller or ball bearing type, and shall be of sufficient weight and strength to support the doors specified for the installation.

Hangers shall be so constructed as to insure quiet, smooth operation and to take care of the up-thrust always prevalent in elevator doors, particularly where pneumatic operators are used. Hangers are provided with pivoting devices when doors are combination slide and swing type.

Classification of Hangers

SINGLE-SPEED—One door moving in one direction.

TWO-SPEED—Two doors moving in one direction, one at twice the speed of the other.

NOTE—Gear or compensating devices in the hangers are omitted when door closers or pneumatic operators are used, as the closer arms operate both doors.

THREE-SPEED—Three doors moving in one direction, fast door at triple the speed of slow door and intermediate door at twice the speed of slow door.

NOTE—When standard door closers or pneumatic operators are used, gear or compensating devices in the hangers are only required between the intermediate and slow doors, as closer arms operate the fast and intermediate doors.

Gear or compensating devices in the hangers are entirely omitted when special door closers or pneumatic operators are used, as the closer arms operate all three doors.

CENTER-PARTING—Two doors moving simultaneously in opposite directions.

NOTE—Gear or chain devices in the hangers are omitted only when overhead pneumatic operators are used.

TWO - SPEED CENTER - PARTING (FOUR DOORS)—Two sets of two-speed doors moving simultaneously in opposite directions.

NOTE—The only practical method of operation is by means of overhead pneumatic operators, in which case, gear, chain or compensating devices in the hangers are omitted.

Pneumatic Door Operators—Side arm engines are used with single, two and three-speed doors; overhead engines with center-parting and two-speed center-parting doors, altho side arm type can also be used with center-parting doors.

Doors shall be equipped with pneumatic operators which shall automatically open and close the doors without undue noise or slamming and without any rebound action. Operators are controlled by means of a cam attached to the car which functions automatically in the case of self-leveling elevators and manually when elevators are straight car switch type.

The operating arms of this device, being in a straight line when doors are closed, act as a lock, making it impossible to open the doors from the corridor side. Operating arms are finished in black or other painted finish.

A parking valve is usually provided for all ground floor openings so that doors can be opened with a key from the corridor side.

NOTE—If desired, air compressors can be shut down at any time, and the doors operated manually, the same as if equipped with door closers.

Air Compressors, Etc. (For Pneumatic Door Operators)—At a location, predetermined and shown on the drawings, the contractor for pneumatic operators shall furnish and install duplicate direct-connected motor-driven air compressors, each of sufficient capacity to meet the demands of the door-operating equipment. He is also to provide necessary tanks, gauges, valves, automatic motor-starting equipment, piping, etc., to make a complete installation.

In the event air compressors, etc., are furnished and installed under separate contract, which is very often the case, the contractor furnishing the compressors shall supply sufficient air pressure at the bottom of hatchways to operate the pneumatic devices. All piping, pressure regulators, tanks, etc., from this point are to be furnished and installed by the contractor for pneumatic operators, including connections to air outlets at the bottom of hatches.

Door Closers—Doors shall be equipped with door closers of the spring-hydraulic type. The doors are opened manually, and the door closers noiselessly and automatically close the doors. When doors are closed, the closer arms, being in a straight line, act as a lock, making it impossible to open the doors from the corridor side.

When door closers are used in connection with Push Button or Dual Control Elevators, the door-operating arms remain in a broken position when doors are fully closed, so that upon arrival of car at floor the doors can be opened from either side.

Special provisions are made for disconnecting the closer arms when doors are combination slide and swing type. Closer arms are finished in black or other painted finish.

Keys for unlocking doors from corridor side are usually provided for ground floor openings, except when used with Push Button or Dual Control Elevators.

Supports—3 x 3 x $\frac{5}{16}$ " structural steel angle support shall be provided for each door closer.

4 x 4 $\frac{1}{2}$ x $\frac{3}{8}$ " structural steel angle support shall be provided for each pneumatic operator of the side engine type.

Special framing shall be provided for pneumatic operators of the overhead type.

Supports and framing are included as a part of the frame construction.

Electric Interlocks—Electric interlocks including wiring shall be provided for each opening. These devices are connected to and operated by the door-operating arms of the pneumatic operators or door closers. They are so designed that when any door is opened, the elevator control circuit through the interlock is opened, making it impossible to move the elevator until the doors in that hatch are closed.

Emergency Release Switches—An emergency release switch, including necessary wiring, shall be installed in each elevator cab. Switch is operated by a push button protected by a “break-glass cover” and is so connected that continuous pressure of the button will short-circuit and nullify the interlock system so that elevator may be operated (in case of emergency) while doors in that hatch are open. The instant pressure is removed from the button the interlocks again become effective.

Rack and Pawl Devices—Each opening shall be equipped with a rack and pawl device. The pawl is applied to the doors and engages rack attached to sills locking the doors during the last six inches of closing movement. This device permits the advancement of contact in the electric interlocks so that the operating circuit of the elevator is closed when doors are within three to four inches of their closed position, thus safely permitting accelerated starting of elevators.

Car Trips and Striker Plates—A car trip shall be provided on each elevator platform and a striker plate on the doors at the ground floor. This device holds the doors in an open position when car is at rest until released by means of a foot pedal installed in the car. Where desired, striker plates can be provided for doors on all floors. Car trips and striker plates are not practical for Push Button or Dual Control Elevators. Where devices for holding the doors open are required in connection with elevators of this type, neat swing catches are recommended.

Barlock Interlocks—Doors shall be equipped with barlock interlocks, consisting of a latch rod mounted vertically on the door which engages a combination keeper and interlock attached to the hanger or door frame, locking the doors when in a fully closed position. Interlocks are arranged so that when any door is unlocked, the elevator control circuit through the interlock is opened, making it impossible to move the elevator until the doors in that hatch are closed and mechanically locked.

Latch rods may be had in polished or dull brass, or in a black finish.

Keys for unlocking doors from the corridor side are usually provided for ground floor openings.

Bar Locks—Doors shall be equipped with bar locks. These are similar to barlock interlocks, with the exception that interlock is not provided, the latch rod engaging a keeper mounted on the hanger or door frame instead.

Gravity Locks—Doors shall be equipped with gravity locks of the mortise or surface type, consisting of a gravity operated latch attached to the door which engages a keeper applied to the hanger or door frame, locking the doors when in a fully closed position. Mortise locks are provided with cup escutcheons or flush pulls on the shaft side.

Cup escutcheons or flush pulls with handles are also provided for corridor side of both mortise and surface type locks when used with Push Button or Dual Control Elevators.

Mortise type locks are usually furnished in polished bronze, and surface type in a black finish, unless otherwise specified.

Keys for unlocking doors from corridor side are ordinarily provided for ground floor openings, except when used with Push Button or Dual Control Elevators.

Latches—Doors shall be equipped with latches of either the mortise or surface type. These are usually furnished in polished bronze and are similar to gravity locks, with the exception that latch bar is operated by a small spring contained in the latch instead of by gravity.

Door Handles or Flush Pulls—Doors shall be equipped with door handles, flush cup pulls or anti-pinch flush cup pulls on both sides to permit the opening of doors when car is at landing.

Door handles are especially recommended for both sides of doors when equipped with door closers, as they provide a better grip for the hand, making it easier to open the doors. Where these are used, doors when in a full open position must project into the opening a sufficient distance to

provide proper clearance for the pulls to avoid the possibility of pinching the hand of person using the elevator.

Handles and pulls are usually furnished in polished bronze.

Butt Hinges—Each swing door shall be equipped with not less than $1\frac{1}{2}$ pair of $4\frac{1}{2} \times 4\frac{1}{2}$ or 5×5 ball bearing butt hinges with loose pins. These can be supplied in wrought steel, bronze or cast iron, and in a plated or polished finish.

Flush Bolts—Each swing door shall be provided with a top and bottom flush bolt, and each sliding door with two flush bolts at the bottom to act as guides. These may be had in cast bronze or iron, and in a plated or polished finish.

Sequence Relays—Sequence relays make it necessary for the operator to observe the proper sequence of operation: to first close the doors and then move the control switch to the starting position. If he fails to do so, the elevator will not start until control switch has been returned to the stop position after the doors are closed.

Sequence relays are ordinarily included in the elevator contract.

DUMBWAITER ENCLOSURES



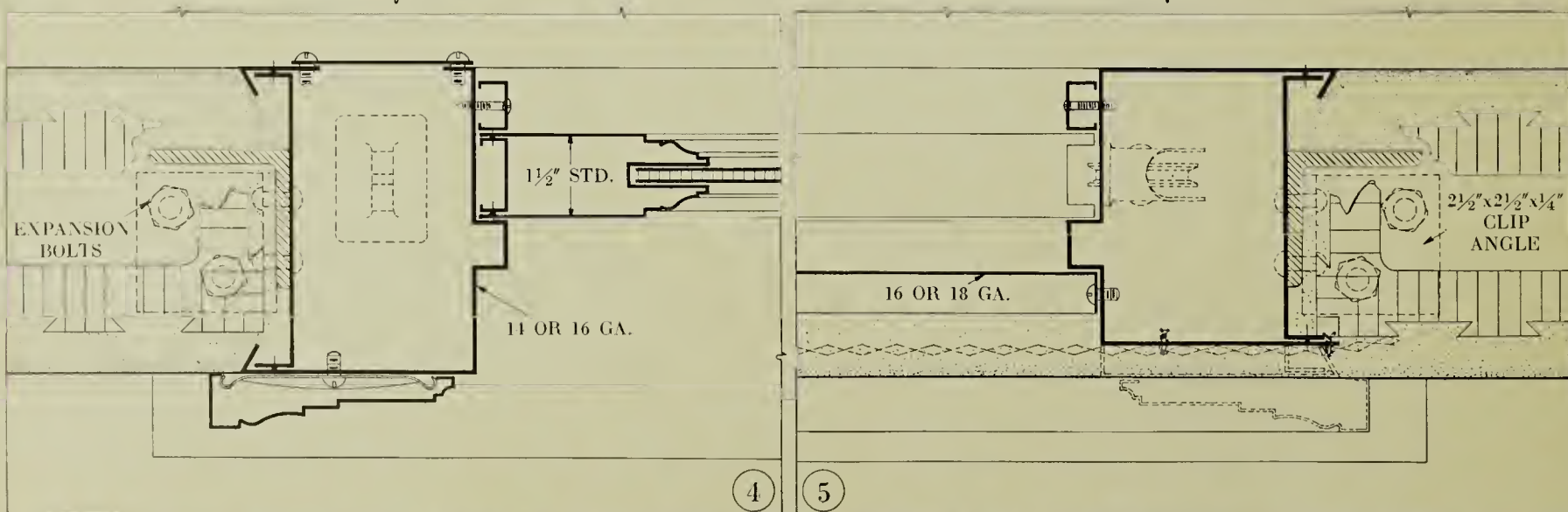
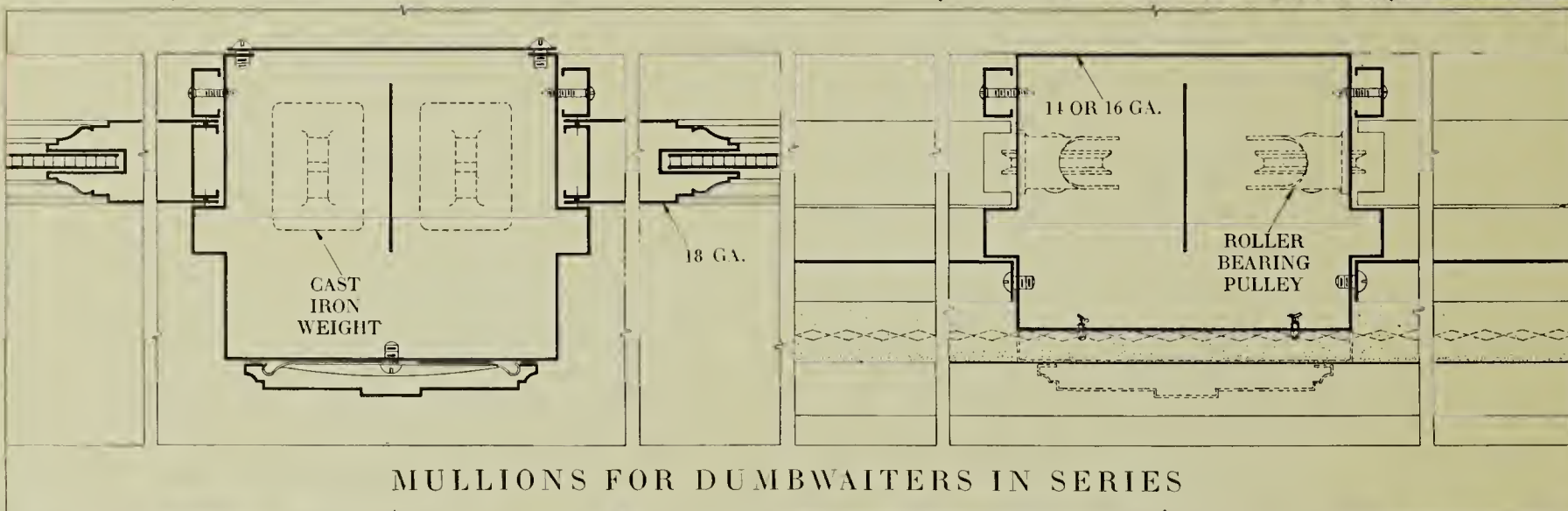
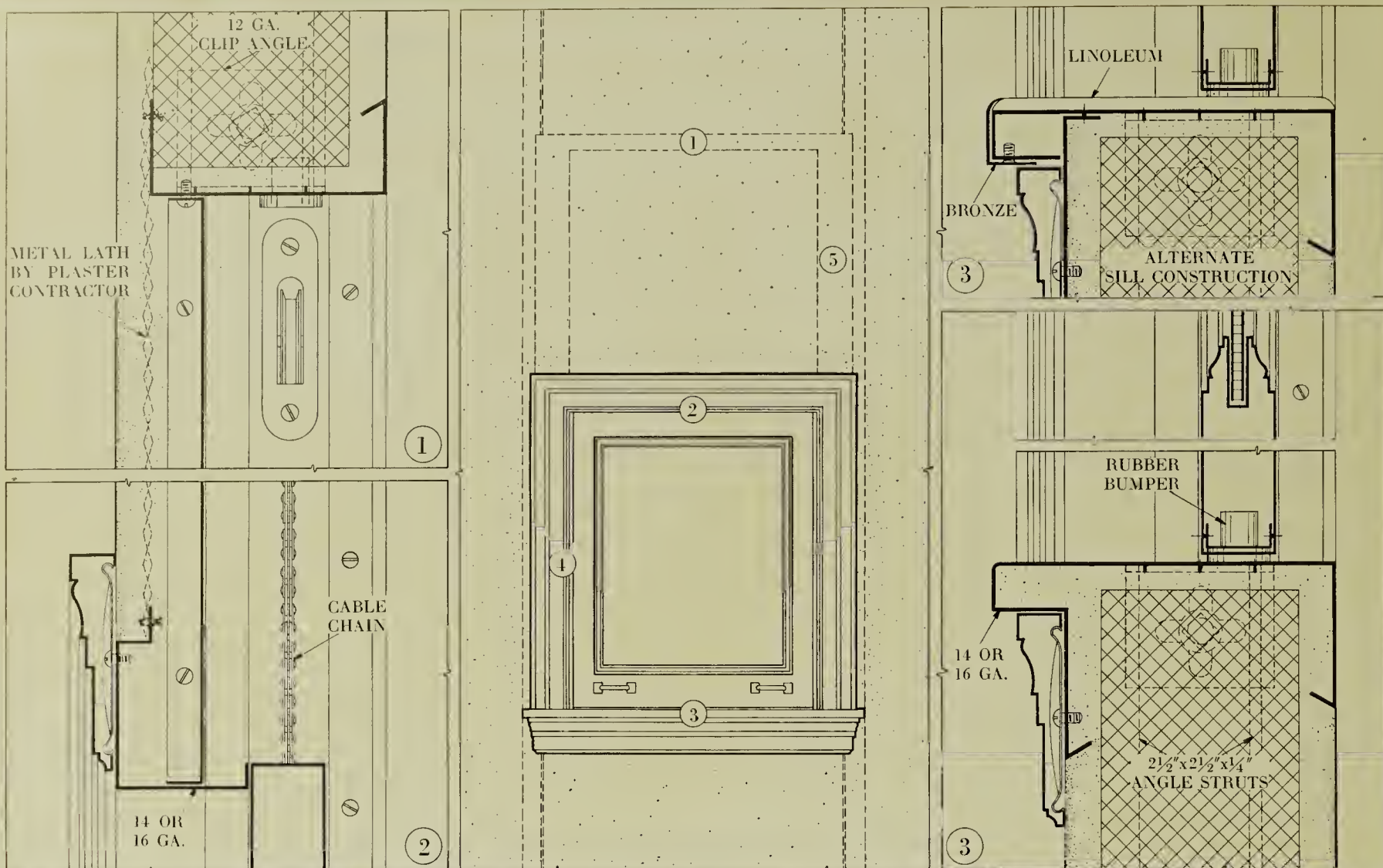
DUMBWAITER enclosures illustrated are of standard construction and can be had in any width and height.

Frames can be furnished in various profiles and to suit any wall thickness. Doors may be had in any design, with a choice of any of the mouldings shown among the types of doors and sash on pages 96 to 98.

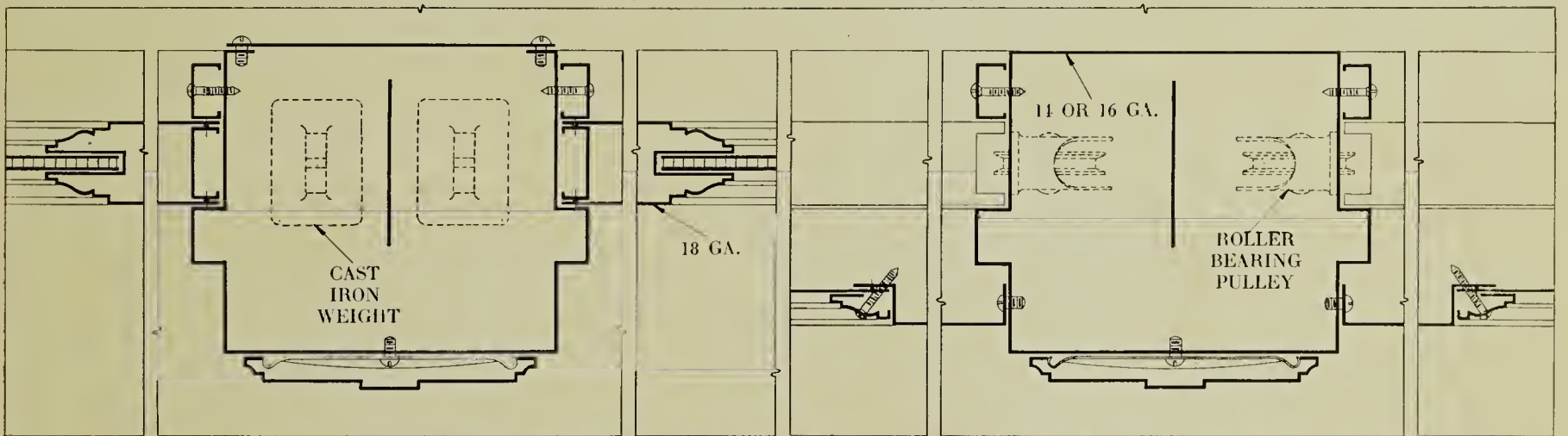
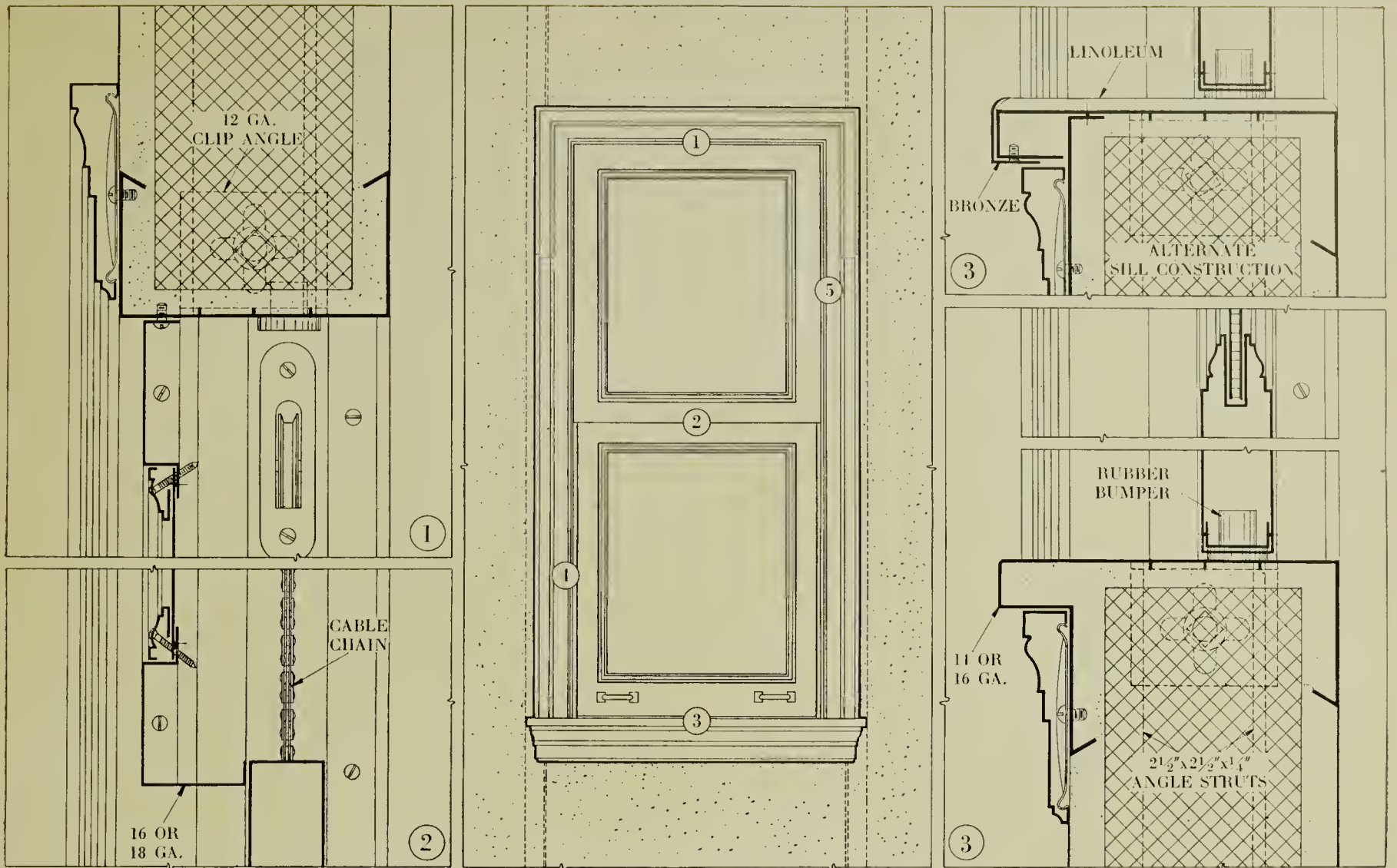
Any of the casings illustrated on pages 124 to 127 may be used instead of the profiles shown.

Unless otherwise specified, pulleys, weights and chains are furnished with slide-up units.

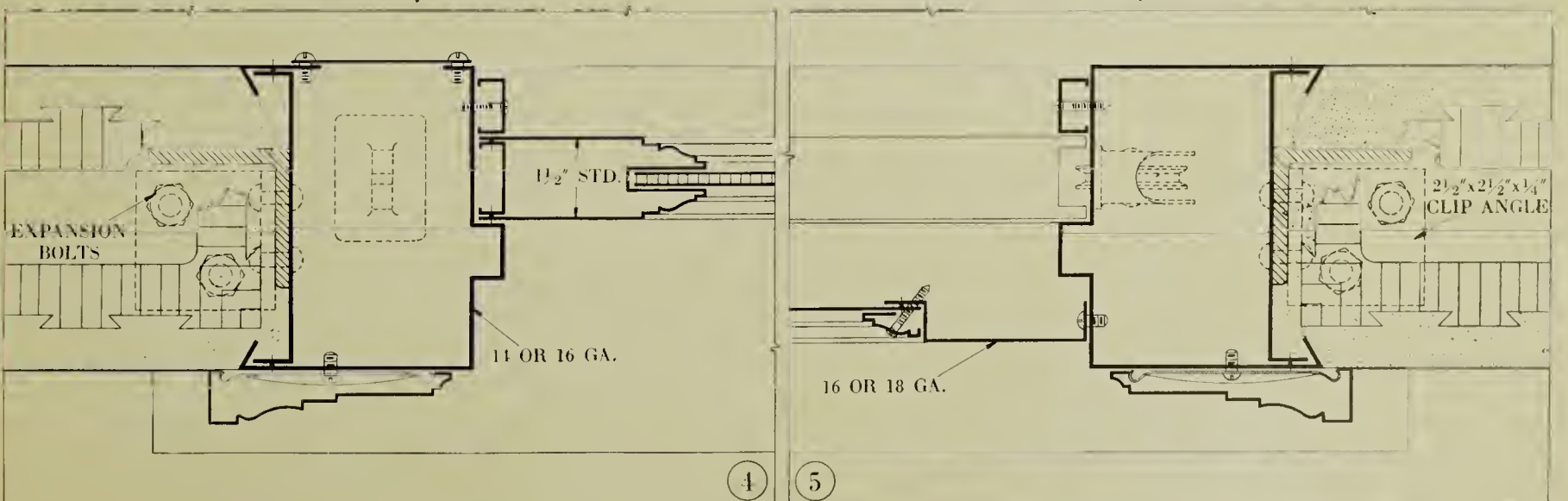
Enclosures for electrically operated dumbwaiters are constructed similar to those illustrated, except that provisions must be made for electrical equipment.



SCALE 3 IN. = 1 FT.

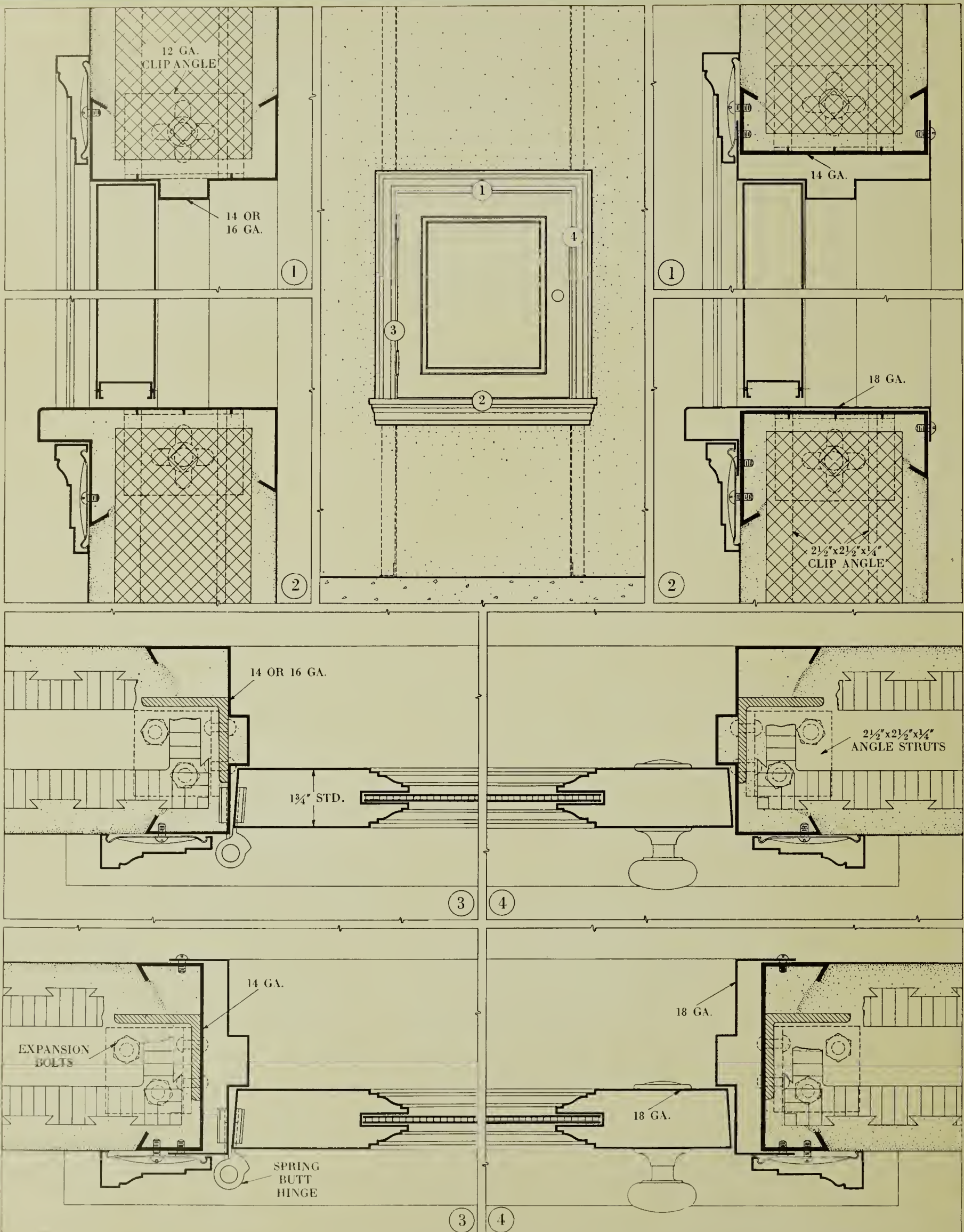


MULLIONS FOR DUMBWAITERS IN SERIES



SLIDE-UP DUMBWAITER ENCLOSURE

SCALE 3 IN. = 1 FT.



HINGED DUMBWAITER ENCLOSURE

SCALE 3 IN. = 1 FT.

GENERAL DESCRIPTION OF HOLLOW STEEL DUMBWAITER ENCLOSURES



Materials—Materials used are the best of their respective kinds. Steel is of the highest grade commercial furniture stock of U. S. standard gauge.

Workmanship—All work is executed by skilled mechanics and is of the finest grade; neat in appearance and free from defects.

Doors (Metal Panel—Slide-up Type)
—Panel mouldings are cold drawn to profile, and fitted to panels constructed of two 18 gauge steel plates separated by heat-retarding filler. Panel mouldings are mitred and welded at corners, forming a continuous frame around panels.

Stiles and rails are formed of 18 gauge steel and continuously interlocked to panel mouldings. Stiles are fitted to rails, reinforced and welded at joints. Stiffener channels extending full height are welded inside the doors in both sides.

Compressed cork is provided in stiles and rails to eliminate metallic sound. Two rubber bumpers are secured in the bottom of each door.

Doors (Metal Panel—Hinged Type)—Hinged doors are constructed similar to slide-up type, except that stiffener channels extending full width are placed in top and bottom of doors. Rubber bumpers are not required.

Doors (Flush—Slide-up Type)—Doors are constructed of two 18 gauge steel plates locked together with special interlocking members welded to plates. These members extend full height of doors and are spaced not more than 6" apart.

Continuous reinforcements in top and bottom and stiffener channels in both sides are welded inside the doors.

Compressed cork is provided in doors to eliminate metallic sound.

Two rubber bumpers are secured in the bottom of each door.

Doors (Flush—Hinged Type)—These are constructed the same as slide-up type, except that reinforcements are placed in both sides and channels in top and bottom of doors. Rubber bumpers are not required.

Doors (Glass Panel Type)—Glass panels are retained by removable mouldings which are secured to stationary mouldings with oval head machine screws. Mouldings are cold drawn to profile and are made into frames with corners mitred and welded. Stiles and rails are interlocked to stationary mouldings as described under "Metal Panel Type."

When doors are "Flush Type," stationary mouldings are interlocked to plates in a similar manner.

Glass—Glass, usually furnished by us, is set in rubber inserts and putty, and held in place by removable panel mouldings.

Frames for Slide-up Doors (Combination Buck and Jamb Type)—Frames and stools are formed of 14 or 16 gauge steel, welded at corners—with returns on stools mitred and welded. Side members are provided with weight boxes having removable covers for access to weights, and loose stops for holding doors in place. Two rubber door bumpers are secured in the head of each frame.

Single panel units have intermediate head pieces formed of 14 or 16 gauge steel welded to side members, and 16 or 18 gauge steel panels for backing up plaster. Panels are secured to head and side members by machine screws.

Upper or fixed panels for double panel units are formed of 16 or 18 gauge steel, paneled to match doors, and secured to head and side members by machine screws.

Dumbwaiters in series are provided with mullions formed of 14 or 16 gauge steel, having weight boxes with removable covers for access to weights, and loose stops for holding doors in place.

Frames for Hinged Doors (Combination Buck and Jamb Type)—Frames and stools are formed of 14 or 16 gauge steel, welded at corners—with returns on stools mitred and welded.

Frames for Hinged Doors (Rough Buck and Cabinet Jamb Type)—

Bucks are formed of 14 gauge steel, welded at corners. Jambs and stools, formed of 18 gauge steel, are secured to bucks by machine screws. Returns on stools are mitred and welded.

Angle Supports—Frames are supported independent of the walls by two structural steel angles secured to floors and beams above.

Casings and Aprons—Casings and aprons are of 18 gauge cold drawn shapes with corners and returns mitred, welded, and secured to frames by concealed fastenings or oval head machine screws.

Hardware—All work is mortised, reinforced, drilled and tapped to receive hardware.

When dumbwaiters are slide-up type, hardware consists of cast iron roller bearing side pulleys and sectional weights, steel or bronze cable chain, and flush or bar lifts.

Hardware for hinged dumbwaiters consists of steel or bronze spring butt hinges, and catches or latches. When dumbwaiters are electrically operated, pulls are used instead of catches or latches.

With exception of pulleys, weights and chains, hardware is usually included under separate contract, but applied at our factory.

It is necessary that hardware be to TEMPLET, and that we be supplied with schedules and templets of hardware required for each opening before materials can be placed in production;

as all mortising for hardware is done while steel is "flat." Templets can be either blue print or physical.

Where required, special provisions are made to accommodate equipment for electric dumbwaiters. Details giving locations, etc., of this equipment are required.

Prime Finish (Doors)—Before assembling, metal panels are painted on the inside. After assembling, all oil, dirt and rust are removed. Doors are then thoroughly coated on the inside and outside with rust-resisting paint by a dip process, and baked.

Exposed surfaces are filled where required, each coat baked and sanded. Priming coat of paint is then applied and baked.

Prime Finish (All Other Work)—After assembling, all oil, dirt and rust are removed. Exposed surfaces are filled where required, each coat baked and sanded. Priming coat of paint is then applied to all surfaces, both inside and outside, and baked.

Plain Enamel Finish—Prime coat is thoroughly sanded, after which three

coats of enamel—of a color as selected—are applied to all exposed surfaces. Each coat is baked and rubbed, the final coat being rubbed to an egg-shell gloss.

Grained Finish—Prime coat is thoroughly sanded, after which all exposed surfaces are hand grained to match sample selected, and then baked. Two coats of finishing varnish are then applied, each coat baked and rubbed, the final coat being rubbed to an egg-shell gloss.

Crating—The finished products are substantially crated to guard against damage in transit.

Combination type frames, when finished in baked enamel, are protected by oiled paper and crated individually. Crating is not removed until after walls have been plastered

Erection—All work is erected plumb and true by skilled mechanics. Angle supports and frames are set before walls are built. The doors, casings, etc., are erected after plastering has been completed and the floors are broom clean.

FIRE UNDERWRITERS' REQUIREMENTS



THE Underwriters' Laboratories have tested and approved our products, authorizing labels for swing door units that conform to the requirements given on succeeding pages.

CLASS "A" UNITS IN DIVISION OR FIRE WALLS

Doors must be not less than 2" thick, of 18 gauge steel, and can be of flush type or divided into any number of metal panels. No glass allowed. Single doors must not exceed 4' x 8'; doors in pairs 8' x 8'. Minimum width of stiles and rails for paneled doors 6". Panel mouldings may be any size. Stiles, rails and flush doors must be lined with $\frac{1}{4}$ " asbestos, panels with not less than 1" asbestos. Doors in pairs must have either plain or moulded astragals both sides. These must lap doors at least $\frac{3}{4}$ ".

NOTE—Doors should be mounted on both sides of the wall, as this is a requirement of the National Board of Fire Underwriters.

Hardware must be as follows: Not less than 5" x 5" loose pin steel butt hinges, one for every 2' 6" of height. Labeled three point locks. Door checks with fusible arrangement in arms are recommended.

Frames can be of combination or rough buck and jamb type, and are limited to a jamb opening size of 8' x 8'. These must be not less than 8" wide, with single or double rabbeted stops $\frac{3}{4}$ " in depth. Combination type frames and rough bucks must be 14 gauge or heavier, with not less than 2" flanges. Jambs must be 18 gauge or heavier with not less than $1\frac{3}{4}$ " flanges. Frames must be secured to walls with adjustable anchors at the sides, spaced not more than 2' on centers, and to floors or thresholds with clip angles and expansion bolts. Inverted type frames, secured to walls with expansion bolts, are not permitted.

CLASS "B" UNITS IN ENCLOSURES TO VERTICAL SHAFTS

Doors must be not less than $1\frac{1}{2}$ " thick, of 18 gauge steel, and can be of flush type or divided into any number of metal panels. No glass allowed. Single doors must not exceed 4' x 10'; doors in pairs 8' x 10'. Minimum width of stiles and rails for paneled doors 5". When doors are 2' 6" x 5' or less, stiles and rails may be 3" or more. Panel mouldings must be of a sufficient size so that grooves for panels are not less than $\frac{3}{4}$ " in depth. Stiles, rails and flush doors must be lined with $\frac{1}{8}$ " asbestos, panels with not less than $\frac{1}{4}$ " asbestos. Doors in pairs must have either plain or moulded astragals one side. These must lap doors at least $\frac{3}{4}$ ".

Hardware recommended is as follows: Not less than $4\frac{1}{2}$ " x $4\frac{1}{2}$ " loose pin steel butt hinges, one for every 2' 6" of height. Ordinary heavy mortise locks or latches with $\frac{3}{4}$ " throw. Three point locks for doors more than 8' in height. Heavy flush bolts at top and bottom of inactive doors, when in pairs. Door checks with fusible arrangement in arms. (Pivots or floor checks are not permitted.)

Frames—See description under Class "E".

CLASS "C" UNITS IN CORRIDOR AND ROOM PARTITIONS

Doors must be not less than $1\frac{1}{2}$ " thick, of 18 gauge steel, and can be of flush or paneled type. Single doors must not exceed 4' x 10'; doors in pairs 8' x 10'. Minimum width of stiles and rails for

paneled doors 5". When doors are 2' 6" x 5' or less, stiles and rails may be 3" or more. Doors in pairs must have either plain or moulded astragals one side. These must lap doors at least $\frac{3}{4}$ ". Paneled doors can be subdivided into any number of metal or $\frac{1}{4}$ " wire glass panels. (No glass permitted in flush doors.) Exposed glass area must not exceed 1296 square inches per light. Panel and muntin mouldings must be of a sufficient size so that grooves for both glass and metal panels are not less than $\frac{3}{4}$ " in depth. Metal panels must be lined with $\frac{1}{4}$ " asbestos. No asbestos required in stiles and rails.

NOTE — Where necessary, panel and muntin mouldings for glass panels can be decreased in size. In this case, the exposed glass area must be decreased in proportion to the depth of the groove; viz., when grooves are $\frac{1}{2}$ " in depth, the exposed glass area must not exceed 400 square inches per light, and 600 square inches when grooves are $\frac{5}{8}$ " in depth.

Hardware recommended is as follows:

Not less than $4\frac{1}{2}$ " x $4\frac{1}{2}$ " loose pin steel butt hinges, one for every 2' 6" of height. Ordinary heavy mortise locks or latches with $\frac{3}{4}$ " throw. Heavy flush bolts at top and bottom of inactive doors, when in pairs. Door checks with fusible arrangement in arms. (Pivots or floor checks are not permitted.)

Frames—See description under Class "E."

CLASS "D" UNITS IN EXTERIOR WALLS SUBJECT TO SEVERE FIRE EXPOSURE

Door description is similar in all respects to that given for Class "B."

Hardware recommended is the same as that for Class "C".

Frames—See description under Class "E".

CLASS "E" UNITS TO EXTERIOR FIRE ESCAPES

Doors must be of 18 gauge steel, not less than $1\frac{1}{2}$ " thick, of flush or paneled type. Single doors must not exceed 4' x 10'; doors in pairs 6' x 10'. Minimum width of stiles and rails for paneled doors 5". When doors are 2' 6" x 5' or less, stiles and rails may be 3" or more. Doors in pairs must have either plain or moulded astragals one side. These must lap doors at least $\frac{3}{4}$ ". Paneled doors can be subdivided into any number of metal or $\frac{1}{4}$ " wire glass panels. (No glass permitted in flush doors.) Exposed glass area must not exceed 720 square inches per light nor more than 54" in height. Panel and muntin mouldings must be of a sufficient size so that grooves for both glass and metal panels are not less than $\frac{3}{4}$ " in depth. Metal panels must be lined with $\frac{1}{4}$ " asbestos. No asbestos required in stiles and rails.

NOTE — Where necessary, panel and muntin mouldings for glass panels can be decreased in size. In this case, the exposed glass area must be decreased in proportion to the depth of the groove; viz., when grooves are $\frac{1}{2}$ " in depth, the exposed glass area must not exceed 400 square inches per light, and 600 square inches when grooves are $\frac{5}{8}$ " in depth.

Hardware recommended is as follows:

Not less than $4\frac{1}{2}$ " x $4\frac{1}{2}$ " loose pin steel butt hinges, one for every 2' 6" of height. Ordinary heavy mortise locks or latches with $\frac{3}{4}$ " throw—so arranged that doors can be unlocked and opened out from

inside of building by single operation of the knob or handle. Heavy flush bolts at top and bottom of inactive doors, when in pairs. Door checks with fusible arrangement in arms. (Pivots or floor checks are not permitted.)

Frames can be of combination or rough buck and jamb type, and are limited to a jamb opening size of 8'x 10' for Class "B," "C" and "D" situations and 6'x 10' for Class "E." These must be not less than 4" wide with single or double rabbeted stops. Combination type frames and rough bucks must be 14 gauge or heavier with not less than 2" flanges. Jambs must be 18 gauge or heavier with not less than 1 $\frac{3}{4}$ " flanges. Combination type frames can also be furnished in 16 gauge, but are limited to a jamb opening size of 3'6"x 7'. Frames must be secured to walls with adjustable anchors at the sides, spaced not more than 2' on centers, and to floors or thresholds with clip angles and expansion bolts. Inverted type frames, secured to walls with expansion bolts, are not permitted.

NOTE—There is no label classification for frames, as is the case with doors. All frames bear the same label, irrespective of whether they are for Class "A," "B," "C," "D" or "E" situations. When frames are rough buck and jamb type, the jamb only is labeled, but rough buck must be inspected. Rough bucks can be welded at corners or shipped "knocked down."

IN GENERAL

Frames with transom bars and stationary or hinged transom sash above swing doors can be labeled for Class "B," "C," "D" and "E" situations. Frames with mullions and stationary sidelights on one or both sides of swing doors, or frames with mullions arranged for

swing doors, with or without transom bars and sash above, can also be labeled for similar situations. The transom bars, mullions, transom sash and sidelights are covered by the frame labels and must be supplied as a unit by this company. Swing doors are covered by separate labels and can be supplied by this company or under separate contract; when sidelights are required, the swing doors must also be labeled and furnished by us. The doors, sidelights and sash must in all cases be placed on the same side of frames; "in and out" type doors are not permitted.

Irrespective of whether or not frames have sidelights or transom sash, they can not exceed a jamb opening size of 8'x 10' for Class "B," "C" and "D" situations and 6'x 10' for Class "E" situations.

Transom Bars and Mullions of either combination or rough buck and jamb type must be not less than 2" thick and 4" in width. Combination type transom bars must be not less than 18 gauge when 5' or less, and 16 gauge when over 5' long. Mullions must be of 16 gauge. Rough bucks for mullions and transom bars must be not less than 14 gauge and the jambs 18 gauge.

Stationary Sidelights can be of flush or paneled type, and are secured in place with machine screws. Description given for doors also governs for sidelights, except that they are limited to a size of 2'x 8', while the minimum width of stiles and rails for paneled sidelights is 3".

Transom Sash can be of flush or paneled type. Description given for doors

also governs for sash, except that they are limited to a size of 8'x 3' for Class "B," "C" and "D" situations and 6'x 3' for Class "E" situations, less the thickness of transom bars and mullions. Minimum width of stiles and rails for paneled sash 2". Stationary sash must be secured in place with machine screws.

Hardware—When not of the stationary type, sash must be hinged at the top. Hardware must be as follows: Not less than 3"x 3" fast pin steel butt hinges, two for sash 4' wide, three for sash 6' wide and four for sash 8' wide. Heavy steel or cast iron lifters or catches, one for each sash.

CLASSIFICATION OF FINISHES



The following finishes are standard and grouped according to cost, Class "E" being the most expensive:

Class "A"

No. 800	Maroon
No. 900	Battleship gray
No. 1001	Olive green, light
No. 1002	Olive green, medium
No. 1003	Olive green, dark
No. 1100	Brown, light
No. 1101	Brown, medium
No. 1102	Brown, dark
No. 1103	Brown, walnut
No. 1400	Black

Class "B"

No. 702	Oxidized bronze, black
No. 702-W	Oxidized bronze, black-wiped edges
No. 702-A	Oxidized bronze, green
No. 702-AW	Oxidized bronze, green-wiped edges
No. 703	Natural bronze
No. 704	Statuary bronze, light
No. 705	Statuary bronze, dark
No. 901	French gray
No. 902	Steel gray
No. 1000	Pea green

Class "C"

No. 100	Fumed oak, straight grain
No. 101	White oak, straight grain
No. 102	Red oak, straight grain
No. 103	Golden oak, straight grain

No. 200	Medium mahogany, straight grain
No. 201	Dark mahogany, straight grain
No. 202	Light mahogany, straight grain
No. 203	Brown mahogany, straight grain
No. 400	American walnut
No. 500	Birch
No. 600	Antique copper
No. 2000	Gum

Class "D"

No. 205	Medium mahogany, crotch grain
No. 206	Dark mahogany, crotch grain
No. 207	Light mahogany, crotch grain
No. 208	Brown mahogany, crotch grain
No. 300	Circassian walnut
No. 700	Verdi antique bronze
No. 1200	Gun metal
No. 1300	Stipple gray
No. 1303	Stipple green
No. 1500	Yellow pine
No. 1900	Ash
No. 2100	Cherry

Class "E"

No. 1600	Silver oak
No. 1700	Birds-eye maple
No. 1800	Marble
No. 2200	White
No. 2300	Ivory
No. 2400	Cream

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